

# BUSINESS WEEK

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A MCGRAW-HILL PUBLICATION

SEPT. 26, 1953



## Grips anything in sight

**C**OAT a pair of inch-square metal surfaces with an Epon<sup>®</sup> resin adhesive, then clamp them together lightly, and let the bond cure. It will take a two-ton pull to break them apart.

Primarily produced for bonding metals, these adhesives will grip anything in sight: wood, plastics, glass, rubber. Because Epon resin adhesives form a powerful bond *without* welding or riveting, industries save on materials and time-consuming operations.

Epon resin's adhesive qualities plus a high resistance to chemical attack also lead to better varnishes and enamels. For example, detergents that once required glass containers are now being packaged in cans lined with an Epon resin enamel.

Development of Epon resins from petroleum is another example of Shell Chemical's partnership with industry and agriculture.

# Shell Chemical Corporation

Chemical Partner of Industry and Agriculture

NEW YORK • SAN FRANCISCO







"CHIEF SAY CALL BY NUMBER BEST WAY!"

**CALLS GO THROUGH  
FASTER WHEN YOU  
CALL BY NUMBER**

**Y**ou save time on out-of-town calls when you give the Long Distance operator the number you want.

So here's a helpful hint. Write down the out-of-town numbers you already know. If there's a new number you don't have—or an old

one you may have forgotten—be sure to add it to the list when the operator gives it to you.

Would you like an attractive booklet for your telephone numbers? Just ask your local Bell Telephone Company.

**BELL TELEPHONE SYSTEM**

LOCAL to serve the community. NATIONWIDE to serve the nation.



Nothing You Build Into Your Product  
*Can Count for More!*



**Everyone Can Count on**  
**VEEDER-ROOT**

This compact Reset Counter, shown actual size, is a standard built-in part of many makes of business machines, cameras, coin machines, compressors, die casting machines, hay balers, laundry equipment, plastic molding machines, punch presses, shoe machines . . . and what have you? It counts turns, strokes, pieces or other units of performance and output . . . supplying facts-in-figures that help toward closer

Control. Find out how your product can give your customers a new usefulness, with these or other Veeder-Root Counters for mechanical or electrical operation. Write:

**VEEDER-ROOT INCORPORATED**  
**HARTFORD 2, CONNECTICUT**

Chicago 6, Ill. • New York 19, N. Y. • Greenville, S. C.  
Montreal 2, Canada • Dundee, Scotland  
Offices and Agents in Principal Cities



*'The Name that Counts'*

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Webster Walvector under windows in Lafayette School classroom. Wall-to-wall warmth.

## COLD MEETS ITS WATERLOO

In Waterloo, N.Y.

New York Community Modernizes its school system with new schools and Tru-Perimeter Heating.

When Waterloo, N.Y., decided its educational shoe was pinching they called on Carl C. Ade, prominent Rochester architect and engineer, to help remedy the situation.

Result—the handsome new Lafayette Elementary School illustrated here and the even larger Skoi-Yase (Indian for "bubbling water") Elementary School. With these new schools, and its existing buildings, Waterloo has solved its educational space problems for many years.



Lafayette Elementary School, Waterloo, N.Y. Completed 1951 at a cost of \$550,000. Architect and Engineer: Carl C. Ade. Heating Contractor: A. BURGART, Inc.

For efficient heating, both these new schools use Webster Walvector, as do many of the schools designed by Carl C. Ade's office.

Here is Tru-Perimeter Heating. The cold perimeter walls of the buildings are heated gently and evenly.

Webster Walvector in perimeter heating simplifies piping, uses fewer risers. Buildings can be heated just before occupancy, heat reduced immediately after the need is gone.

For complete information call the Webster Representative or write us.

Address Dept. BW-4

WARREN WEBSTER & CO.  
Camden 5, N.J. Representatives in Principal Cities  
In Canada, Darling Brothers, Limited, Montreal

**Webster**  
**WALVECTOR**  
For Steam or Hot Water Heating

# Only **OZALID** gives you in a Desk-top



Cut copying costs . . . Use **OZALID**®

Ozalid, Johnson City, N. Y. A Div. of General Aniline & Film Corp. "From Research to Reality."  
Ozalid in Canada—Hughes Owens Co., Ltd., Montreal.



# all these advantages Direct Copying Machine!

**1. VERSATILITY.** You can make Ozalid copies of almost anything on ordinary translucent paper. Accounting reports, order forms, purchase orders, invoices, charts and all kinds of routine paperwork can be copied in seconds. You write it *once* with Ozalid, and use Ozalid copies to carry instructions wherever needed!

**2. SPEED.** With the desk-top Ozamatic machine you can make a single copy—complete, dry and ready-to-use—in seconds. Or, you can turn out hundreds of letter-size copies per hour.

**3. ECONOMY.** Letter-size Ozalid copies cost only 1½¢ each (including labor, materials and machine depreciation). You save the clerical cost of re-writing and manual copying.

**4. FLEXIBILITY.** The Ozamatic makes copies up to 16 inches wide, any length required. This means that good-sized charts and accounting forms are copied as readily as sales slips. Ozalid copies can be made in a variety of colors. Copies can be made on a wide variety of materials, including thin papers, card weight stocks, film and cloth.

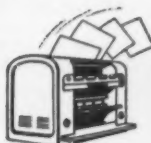
**5. RECORD OF SUCCESS.** As the leader of its industry, Ozalid has a highly successful record of performance. Ozalid machines, materials and know-how are unsurpassed in their service to industry.

**6. NATION-WIDE SERVICE.** Ozalid's trained representatives, located in all major cities throughout the United States, assure you of immediate attention to your problems, prompt delivery of materials and up-to-date information on how you can cut costs and speed paperwork with Ozalid.

## Typical Ozalid Applications Like These Make Important Savings in Thousands of Businesses!



**Payroll Computation.** One railroad using Ozalid saves \$30,000 a year by using Ozalid copies of train dispatchers' reports to compare against trainmen's time cards!



**Compensation Reports.** An insurance company saves 58% in costs by issuing Ozalid copies of handwritten workmen's compensation reports to 47 state insurance departments.



**Order Handling.** Since installing Ozalid a wholesale hardware firm now uses *one* girl to process the same number of orders that formerly required six girls!



**Billing Operations.** A broadcasting company uses *one* clerk for 3 hours to issue bills with Ozalid that formerly took *two* clerks 28 hours!

Write Today, or For Full Details  
Call the Ozalid Distributor Listed under Duplicating  
Equipment and Supplies in the  
classified pages of your phone book.

OZALID, Dept. A-40  
General Aniline & Film Corporation,  
Johnson City, N. Y.  
Gentlemen: Please send me full details on  
your OZAMATIC machine.

Name \_\_\_\_\_

Company \_\_\_\_\_

Position \_\_\_\_\_

City \_\_\_\_\_

## IDEAS FOR INDUSTRY



Aircraft uses are legion, include electronically transparent radomes, antenna housings, wing liners, ducts—even complete rivet-free wing sections are already in use.



Fishing rods are livelier, stronger than finest of steels. Over 15 million in use.



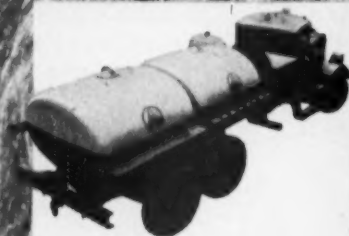
Pleasure boats of all kinds—rowboats, cruisers, runabouts, outboard racers, utilities, one-design sailboats—are maintenance-free, in great demand.



Chairs like this Eames-designed prize winner can be left outdoors in all kinds of weather without marring their beautiful finish—are light in weight yet extremely durable.



Lamp shades keep their beauty longer—won't shrink, warp or sag—can be washed repeatedly with soap and water without damage. They're fire-resistant, too.



Mobile tanks transport gas, diesel fuel, water across deserts. Steel tanks formerly used needed frequent replacement because of corrosion problem.



Luggage is lightweight yet rugged—absorbs toughest knocks of traveling without showing wear or losing its original shape. Resists scuffing, staining, cracking.



Structural paneling is translucent, offers beautiful built-in colors—yet is shatterproof and sturdy enough to qualify for variety of industrial building uses.



Archery bows have unmatched zip—never “set” even when left braced—are virtually immune to “fatigue” or breakage common to ordinary types of bows.



Sports car bodies are making auto industry headlines as Chevrolet and Kaiser-Frazer turn out finished cars. They're lighter, harder to dent, corrosion proof.



Lightweight trays and containers take heavy abuse, withstand chemicals and moisture—are used widely by industry in a variety of materials handling operations.

## To make plastic products stronger, give them a backbone of glass!

In the plastics field, the folks who know best—the researchers, the designers, the molders themselves—agree that Fiberglas\* reinforcements combine properties that are both unique and vital to plastics. Take strength, for example:

The filaments of glass from which Fiberglas yarns are made have amazing tensile strength—well over 200,000 psi. Moreover, this is strength without weight . . . without bulk. Strength that shrugs off rot, heat, moisture, corrosion and other forces that destroy or weaken ordinary reinforcements.

And that's why, when extra

strength is a must, the plastics industry turns almost automatically to Fiberglas reinforcements . . . as they have in all of the successful product applications shown on these pages.

It's also a big reason why industry at large is turning more and more to reinforced plastics—Fiberglas-reinforced plastics—as a basic structural material for making good products better . . . and creating products where none existed before.

At Owens-Corning Fiberglas Corporation, the industry's most extensive research facilities and know-how are at your service. How can we serve you best?

### Owens-Corning Fiberglas Corporation

Textile Products Division, 16 East 56th Street, New York 22, New York



**Leading a great new industry forward**

← This is an actual photograph of Fiberglas reinforcing mat, one of 4 major forms in which Fiberglas reinforcements are supplied to the plastics industry. The other three are chopped strands, continuous roving and woven cloth.

\*Fiberglas is the trade mark (Reg. U. S. Pat. Off.) of Owens-Corning Fiberglas Corporation for a variety of products made of or with fibers of glass.



# If You Make Power Equipment



# Belden

WIREMAKER FOR INDUSTRY

To You,  
Belden's Golden Anniversary Means

—product performance that can come only from a "know-how" that has grown through actual service since the early days of the electrical industry.

—an ability to co-operate in pioneering new wires to meet or anticipate industry's growing needs.

In the years that follow  
This Belden  
Program Is

—TO BE  
CONTINUED

## ....WIRE WITH Belden AND CUT COSTS

**CUT COSTS** with a specialized magnet wire — developed specifically for your requirements.

**CUT COSTS** in lower production waste and fewer rejections upon inspection. Cut costs by reducing customer complaints—cutting repair comebacks—assure low-cost maintenance and customer good will.

**CUT COSTS:** specify Belden Magnet Wire. Check its advantages with Belden engineers, today.

There is  
plus protection  
in Belden  
Magnet Wire

Belden Manufacturing Co.  
4689-A W. Van Buren St.  
Chicago 44, Illinois

## READERS REPORT

### Forbidden City

Dear Sir:

There are perhaps 50,000 amateur radio operators throughout the world who would be quick to contest the claim of author, Heinrich Harrer, of being the only white man ever to have lived in the forbidden city of Lhasa [BW—Aug. 29 '53, p152].

Reg N. Fox, a Britisher at Lhasa, regularly communicated with fellow amateur operators in the U.S. from 1939 until 1951 . . . when he fled before occupying Communist forces. Fox died June 4, 1953 near Kalimpong, India. He had served as personal radio operator for the Dalai Lama, the ruler of Tibet.

There are at least seven ex-U.S. Air Force men who can personally substantiate his existence, and acknowledge his assistance after their forced landing in Tibet during World War II.

WALTER A. KNOOP, JR.

ESSEX FELLS, N. J.

### Wood Preferred

Dear Sir:

. . . The article, Why the Carpenters' Union is Tough [BW—Aug. 22 '53, p108], carries a picture caption which . . . reads: Wood is taking a back seat to metals and new, fireproof materials. . . .

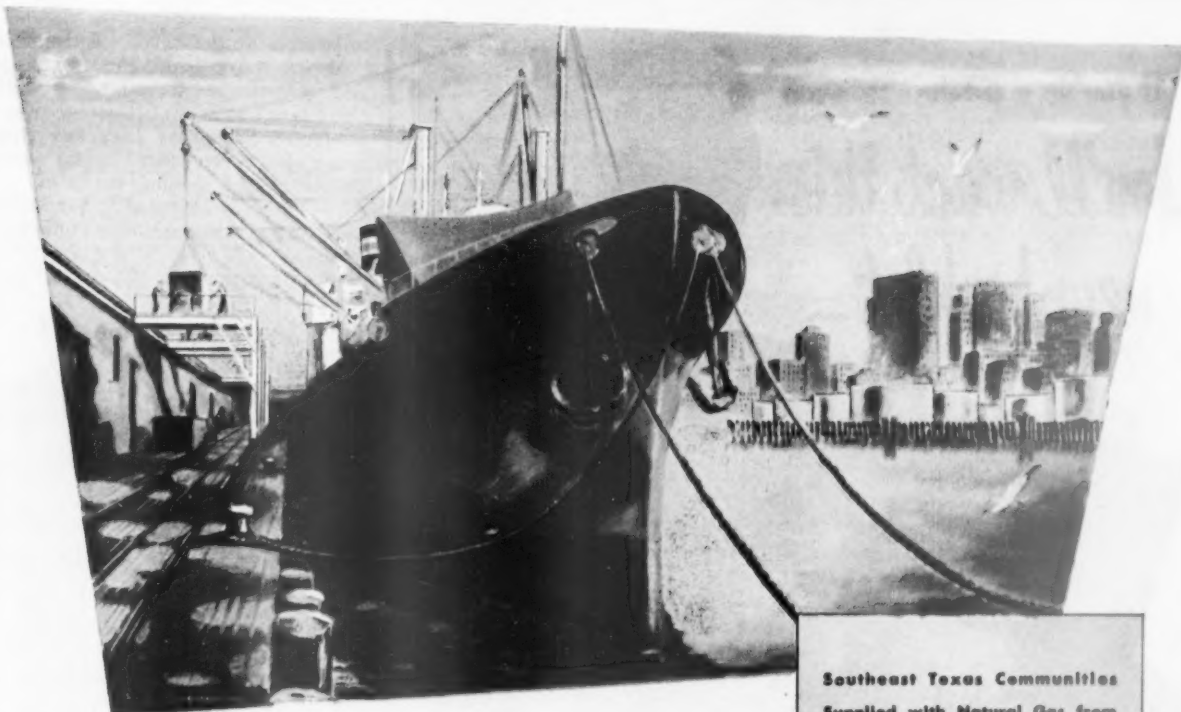
. . . A Fire that Changed the Course of an Industry, page 28, shows a photograph of the General Motors Corp. fire, captioned "Steel beams buckled; roof sections crashed onto costly machinery." On page 34 in the story, Stepping into Steel Homes, you state: "No company has ever succeeded with a prefabricated steel home for private owners, though many have tried."

Many . . . figures from "The Materials Use Survey" by the Housing & Home Finance Agency . . . can be cited to prove that wood is not taking any back seat in home building to metals or any other so-called "new, fireproof materials." On the contrary, wood leads the field today in home construction in exterior wall construction, in siding, in flooring, doors, windows, kitchen cabinets and trim. . . .

Carpenters and builders like to work with wood and consider it an all-purpose material, which it always has been. . . .

. . . Fire chiefs have told us, and independent laboratory tests have proved, that unlike unprotected metals, during fires that generate intense heat, wood trusses and rafters merely char but still support roofs. Unprotected metals buckle with resulting roof



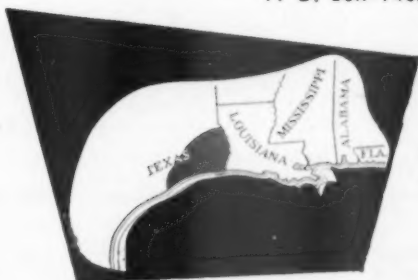


## SOUTHEAST TEXAS, G. S.\*

### ...FOR INDUSTRIAL DEVELOPMENT UNLIMITED

Many millions of dollars invested annually in new industrial construction attest the advantageous location factors of Southeast Texas. Rich in natural resources, it is fast becoming the chemical manufacturing center of the nation. With deep-water ports and inland waterways, its shipping tonnage ranks high among the ports of the world. Adequate, dependable supplies of natural gas provide an economical source of fuel and electric power. Add to these the year-round temperate climate of the Gulf South\* and the growing markets of the area... and you have a preferred location for new or expanding industries.

For information about plant locations and fuel supplies, write our Industrial Development Director, P. O. Box 1407, Shreveport, Louisiana.



One of a series of ads, now in its 15th consecutive year, describing the industrial advantages of the Gulf South.

#### Southeast Texas Communities Supplied with Natural Gas from the Pipe Lines of United Gas

AMELIA	KIRBYVILLE
BEAUMONT	LAKE JACKSON
BELLAIRE	LIBERTY
BRAZORIA	LIVINGSTON
BRIDGE CITY	MONT BELVIEU
BUNA	MOONSHINE HILL
CLEVELAND	NEDERLAND
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CROSEY	NEW WILLARD
DAYTON	ORANGE
FAIRBANKS	ORANGEFIELD
FANNETT	PASADENA
GALENA PARK	PORT ARTHUR
GOODRICH	PORT NECHES
HAMSHIRE	ROSENBERG
HIGHLANDS	SARATOGA
HOUSTON	SHEPHERD
HUMBLE	SOUR LAKE
JACINTO CITY	VIDOR
JASPER	WINNIE

## UNITED GAS

SERVING THE

*Gulf South*

UNITED GAS CORPORATION • UNITED GAS PIPE LINE COMPANY • UNION PRODUCING COMPANY

If you've a product to wrap  
**You'll want this  
new booklet—**



**write for it  
today —**

on your business  
letterhead. Write  
Dept. BW

### The perfect wrapper for

CANDIES AND CONFECTIONS  
FOODS AND BAKERY PRODUCTS  
PREPACKAGED TABLE MEATS,  
BACON, CHOPS AND PATTIES  
ICE CREAM BARS, NOVELTIES  
CITRUS FRUITS, VEGETABLES,  
CHEESE, DAIRY PRODUCTS  
HARDWARE, MACHINE PARTS  
TISSUES, NAPKINS, TOWELS,  
PAPER AND CLOTH SPECIALTIES  
BANDAGES, SOAPS,  
PHARMACEUTICALS AND 101  
VARIED ITEMS OF REGULAR  
AND IRREGULAR SHAPE

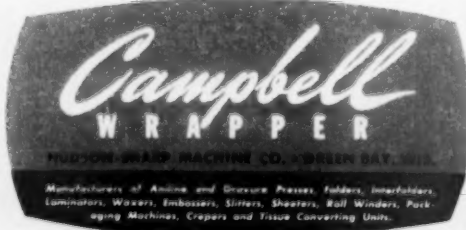
### FOR THE ARMED FORCES

We are contributing to the nation's defense program by providing a large part of our increased production facilities for building precision armaments.

NEW YORK • 55 E. 42nd St.

### DESCRIBES HOW PRODUCTS OF EVERY DESCRIPTION ARE AUTOMATICALLY PACKAGED FASTER — CHEAPER — BETTER!

- Wraps 100 to 300 Units per minute!
- All rotary, automatic continuous feed motion
- Float wraps products of regular or irregular shape
- Positive heat or glue and crimp sealing
- Uses all types of modern wrap materials
- Single operator can tend several machines at same time
- Saves materials—no trays or stiffeners, unless desired
- Special automatic feeds, labelers and code daters



collapse, death and destruction. Wood today is in the front seat and it will be tomorrow. Natural characteristics as well as new wood products now in the laboratory stage insure its continuance as the most preferred of all building materials.

DOUGLAS S. STEINBERG

NATIONAL LUMBER MANUFACTURERS  
ASSN.

WASHINGTON, D. C.

### This Skeleton Business

Dear Sir:

We have noted an article in your Aug. 8 issue, page 140, entitled *Skeletons in Plastic Liven Up Trade*.

It appears that some information given in this article is based on the misconception that natural human skeletons are not available or . . . are extremely difficult to procure. This is not at all the case, because natural human skeletons are available in any quantity that one may wish to procure.

. . . We have in the neighborhood of 300 sets of human skeleton materials on hand and are momentarily expecting additional supplies. . . .

Obviously, customers who are ordering human skeleton preparations from us do not have to wait six months or more for delivery. Many teachers and scientists throughout the country still feel that there is nothing better for the study of human osteology than a natural human skeleton. One simply cannot improve on nature, as the saying goes. . . .

FRANK M. KITTNER

MANAGER  
BIOLOGY DEPARTMENT  
DENoyer-GEPPERT CO.  
CHICAGO, ILL.

### Overestimated

Dear Sir:

In your issue of Aug. 15, page 100, the article, *Boom in the Underworld*, states that there is a gold mine in the narcotics racket. It seems to me that there would be a gold mine in any legitimate business for anyone who can get 437 grams from an ounce.

PAUL F. LAWLER

PROPRIETOR  
SHAWMUT RESEARCH CO.  
BUSINESS & TECHNICAL RESEARCH  
BOSTON, MASS.

• Indeed there would. We meant grains, of course.

### TV Boosters

Dear Sir:

I have read with great interest your story entitled *Television in the Outposts*, in the Sept. 5 issue, page

BUSINESS WEEK • Sept. 26, 1953



## Does cost accounting keep you tied down?

Involved accounting controls have often interfered with production. If Sikorsky Aircraft (Bridgeport, Conn.) hadn't washed out its old costing procedures, its helicopters might never have got off the ground.

Sikorsky's labor costing problem was complicated by the question of experimentation and modification costs. To support its costs on government contracts, the company needed a more detailed breakdown on labor operations.

McBee Keysort job-time cards, by squeezing vast costing volume into compact and varied reports, now give Sikorsky the facts . . . completely, accurately, promptly.

Over 4,000 Keysort job-time cards are processed each day to produce weekly status reports and monthly summaries on both direct and indirect labor costs. Keysort's ingenious numerical coding system gives the cards an

amazing capacity; tens of thousands of part numbers are coded on a card only seven and a half inches long.

"Keysort has remarkable capacity and flexibility," says Sikorsky Management, "and it's simple to train and filter new personnel into the procedure. Various functions are readily interchanged by regular office workers."

For full details on the Sikorsky story, mail the coupon below. Or better still, ask your local McBee representative how McBee can help in your own business.

## THE McBEE COMPANY

Sole Manufacturer of Keysort—The Marginally Punched Card



295 Madison Avenue, New York 17, N. Y.

Offices in principal cities. The McBee Company, Ltd.,  
11 Bermondsey Road, Toronto 13, Ontario.

MAIL THIS COUPON TODAY B.W. 9-26-53

### THE McBEE COMPANY

295 Madison Avenue, New York 17, N. Y.

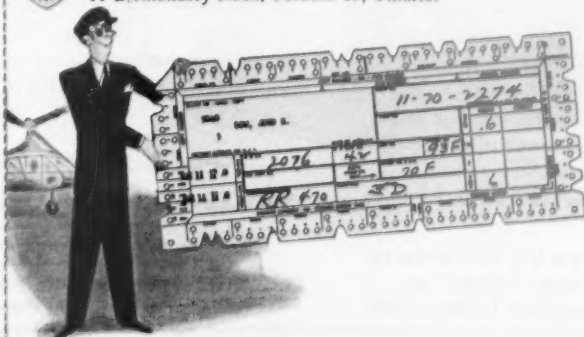
Please send me the Sikorsky story "How to squeeze labor costing volume into compactness."

Firm \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

By: \_\_\_\_\_

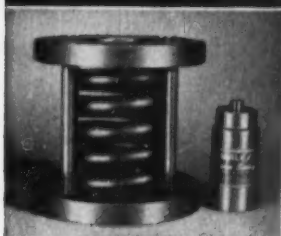




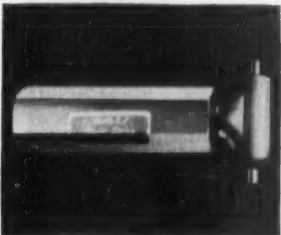
*Have you a spring problem?*

# CHECK THE NEW REVOLUTIONARY WALES Hydra Spring using liquid compressibility

NOW AVAILABLE  
FOR USE IN YOUR PRODUCT



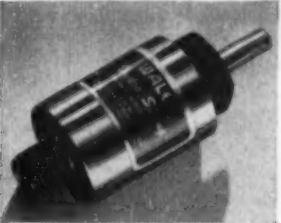
The small, compact Wales Hydra Spring delivers as much force and stroke as the big caged railroad type coil spring.



5000 Pound Wales Eccentric Spring with 1" stroke, is only 1 1/2" dia. x 5"; equals capacity of a 7" x 6" dia., 1" wire coil spring.



7000 Pound Wales Tension Spring with 3" stroke dampened return, is only 2" x 5" x 6"; equals capacity of an 18" x 6" dia., 1" wire coil spring.



4000 Pound Wales Spring with 3/4" stroke, is only 1-3/4" dia. x 4"; and can be adjusted to equal capacity from an 11" x 5" dia., 3/4" wire coil spring to a 5" x 7" dia., 1" wire coil spring.

**It's a big new story so  
write TODAY for  
complete information.**

## FORCE

Wales Hydra Springs deliver **1000%** more force in the same space as mechanical springs, simplifying product designs and other spring applications by using the compressibility of special liquids called Wales Comproils.

## SPACE

Wales Hydra Springs save space compared to mechanical springs producing the same spring forces. Small reservoirs for Comproils may be located in any remote position providing non-conventional shapes for unusual requirements.

## INSTALLATION

Wales Hydra Springs provide quick, easy installation because they are compact, self-contained, pre-loaded, and may be dampened and adjusted in place. Eliminates all drilling, spring pads, mechanical adjustments, external dampening and the retainers required by mechanical springs.

## INVENTORY

Wales Hydra Springs reduce inventory because adjustable force, stroke and pre-loads make each one equal to many sizes of mechanical springs. Wales Comproils provide **unlimited** spring characteristics in any one Wales Hydra Spring.

*Hydra Spring Division*

**WALES-STRIPPIT CORPORATION**

George F. Wales, Chairman

388 Payne Avenue, North Tonawanda, N. Y.  
(Between Buffalo and Niagara Falls)

Wales-Strippit of Canada Ltd., Hamilton, Ontario  
Specialists in Machines and Compressible Materials

44. . . . The purpose of this letter is to acquaint you with a third development in the field of television which has been going on under the aegis of WSM, Inc. for some time, and which in our opinion offers the cheapest method of spreading television service from the standpoint of the viewing public.

The system to which I refer is a booster rather than a community antenna system or a satellite. The main point of difference between a satellite and a booster station is that the booster simply raises the signal level on the same channel, while the satellite converts the received signal to a UHF channel before being radiated. There are advantages in both systems, but the chief advantage of the booster is that the viewer does not pay anything for the service, nor does he have to buy a set equipped with UHF. . . .

We feel that the bringing of television to outlying areas is a matter of first importance in the industry, and for that reason we will soon ask the Federal Communications Commission to hold a general hearing on the subject of community antenna systems, boosters and satellites. We feel that these systems are not mutually exclusive and that the FCC should set policy with respect to them in order that they may be taken out of the experimental category and recognized as a fully commercial means of extending service.

JOHN H. DEWITT, JR.

PRESIDENT  
WSM, INC.  
NASHVILLE, TENN.

## Hallmarks

Dear Sir:

In your issue of July 11, on page 101, you reproduced an article, Signed Ads. While this is an excellent suggestion, it is by no means a new idea. The matter of agencies signing their advertisements is almost perennial. This is in no way intended to belittle the idea, but to show that it has been considered many times.

. . . I feel that there should be an agency identification, but I am utterly opposed to an agency signing its name, since it might detract from the value of the ad. The public should feel that each advertisement emanates from the office of the firm itself. . . . It is not amiss, however, to include an unobtrusive symbol which has a meaning only to those in the advertising profession.

. . . I adopted a symbol and included it in all my ads and advertising literature. . . . It is distinctive, takes up little space, is legible in actual size, and means nothing to the reader. . . .

LEO P. BOTT, JR.

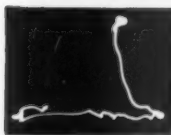
CHICAGO, ILL.



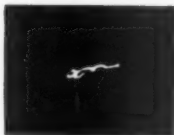
# Scatterbrain



## ...not when you get her a MONROE



Head motion required on extra keyboard machine: head and eye must move constantly from one to the other; thoughts are scattered; work is harder, more complex.\*



Head motion required on Monroe single keyboard machine: head motion is six times less! Thoughts are concentrated; work is easier, more efficient, more accurate.\*

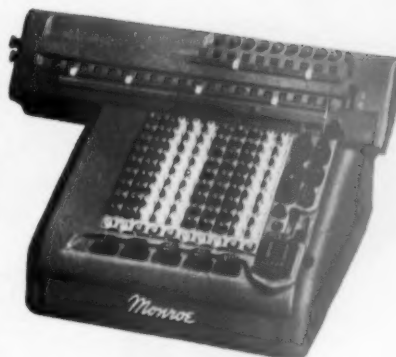
Don't blame the poor girl if hard-to-work keyboards make calculating costs soar. Could be, she's worn out with all the unnecessary physical motion required to operate extra keyboard machines. She'll have a much easier time keeping her thoughts together, and fewer headaches, when she uses a Monroe.

It's simple arithmetic. The Monroe fully automatic calculator eliminates countless separate operations, drastically reducing the amount of physical effort required. Obviously this involves less hand work. And, equally important for the operator, *it greatly cuts down on head motion*. That's the tiring part of extra-keyboard operation; that's where errors creep in—the slips betwixt the hand and the head!

So, by cutting down on all motion, Monroe means *less operator fatigue, more efficient, accurate work*. You get *more output* at less cost.

Another big Monroe exclusive: all zeros and decimals are handled automatically on the single keyboard!

Figure on cutting *your* calculating costs. Figure on seeing your Monroe representative soon. Just telephone your local office. It'll pay you.




CALCULATING • ADDING  
ACCOUNTING MACHINES

\*Tracer light photos made by U. S. Testing Co. on the same routine figure problem show how much less work is required to operate Monroe's single keyboard.


MONROE CALCULATING MACHINE COMPANY, INC., ORANGE, NEW JERSEY

# Here are metal office chairs with unbelievable resistance to wear— thanks to **STURLON**<sup>®</sup> an extraordinary new finish



You will be hearing a lot about this extraordinary new finish. As far as office chairs are concerned (Sturgis is the only maker of office chairs with the rights to use STURLON), it means that you may now buy steel chairs with unbelievable resistance to wear normally resulting from scuffing and repeated bangings of chair against chair.

STURLON is sprayed on and infra-red baked to a thickness about four times that of other finishes. Independent laboratory tests show STURLON has a resistance to abrasion 10 to 20 times greater than that of other finishes. This means that the STURLON finish will endure and continue to protect the metal indefinitely.



You can't see *all* the quality that's engineered into Sturgis chairs

And that isn't all—

*STURLON is wonderfully warm and pleasant to your touch.*

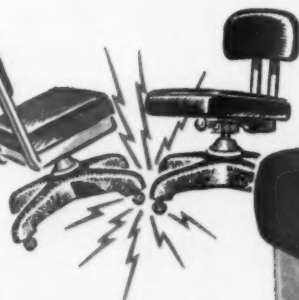
*STURLON is non-corrosive— is unaffected by moisture, salt air, humidity or temperature changes.*

• Sturgis STURLON-finished chairs, both executive and stenographic, are now being shown by your Sturgis dealer in three popular colors: *metallic gray, green and walnut.*



**POSTURE  
CHAIRS**

THE STURGIS POSTURE CHAIR COMPANY • STURGIS, MICHIGAN  
For complete information and the name of your nearest dealer,  
Write to The Sturgis Posture Chair Company, General Sales Office, 154 East Erie Street, Chicago 11, Illinois



Another great STURGIS achievement:

## Steel office chairs with Fiber Glass Bases

that no amount of office abuse  
will dent, deform or disfigure

Now you can have office chairs with a virtually damage-proof base—a base that will never have to be refinished because there's no finish to be refinished. It's a solid, one-piece, molded fiber glass unit that will never need more than a wipe with a cloth to keep it looking like new.

Your Sturgis dealer is now showing both executive and stenographic chairs with fiber glass bases. What's more, these chairs may be selected with the visible steel parts finished in STURLON®, the extraordinary new finish which has 10 to 20 times the abrasion resistance of other finishes, is warm to the touch and is non-corrosive. You can't beat that combination!



### POSTURE CHAIRS



#### Self-leveling

The flex characteristics of this fiber glass base are such that regardless of the unevenness of the floor, the occupant's weight keeps the chair absolutely level.

You can't see *all* the quality that's engineered into Sturgis chairs



#### Cures "foot-trouble"

Office workers are prone to inflict scars and acuffs on chair bases. But a fiber glass base is a sure cure for this sort of "foot trouble".



#### Noiseless!

The sound deadening characteristic of fiber glass insures virtually noiseless movement of the chair, even on rough and uneven floors.



#### Smart, beautiful patterns

The glass fiber formations produce a pattern of distinctive beauty—introducing a brand new decorative note into office chairs.

THE STURGIS POSTURE CHAIR COMPANY • STURGIS, MICHIGAN

For complete information and the name of your nearest dealer, Write to The Sturgis Posture Chair Company, General Sales Office, 154 East Erie Street, Chicago 11, Illinois



*A hot air blanket halts penetration at the critical point.*

## Turning Heat On "Big Bertha"

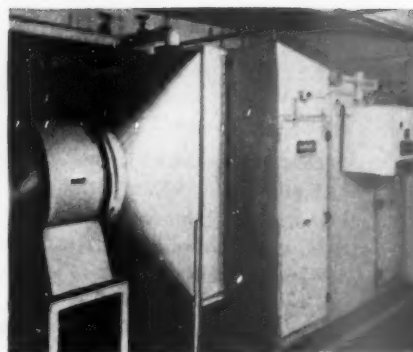
**GUARANTEES PAPER QUALITY, SPEEDS PRODUCTION**

Coating Diazo duplicating paper is tricky business. Special sensitizing solutions must penetrate it—but only to an exact, pre-determined depth. "Big Bertha", the world's largest drier, is Ozalid's answer. In six temperature control zones, a hot air blanket halts penetration at the critical point, keeps a constant moisture content in the 975 feet of paper processed every minute.

To assure positive control, J. O. Ross Engineering Corp. specified Westinghouse fans for this drier. Teamed up with PRECIPITRON®, the electronic air

cleaner, they handle 95,500 cfm of dirt-free, high-temperature air twenty-four hours a day. Rugged, dependable Silentvane® Fans need little maintenance, give long service at low operating cost.

Westinghouse offers a complete line of air handling, air conditioning and air cleaning equipment. We can help you *put air to work*, too. Call your local Westinghouse-Sturtevant office. Westinghouse Electric Corporation, Sturtevant Division, Hyde Park, Boston 36, Massachusetts.



Paper quality must also be protected from harmful airborne dirt. So Westinghouse PRECIPITRON, the most efficient commercial air cleaner available today, is used. Seven of these units remove even the tiniest particles from the air by electronic attraction.

**WESTINGHOUSE  
AIR HANDLING**

----- YOU CAN BE SURE... IF IT'S **Westinghouse** -----

J-80323



# BUSINESS OUTLOOK

BUSINESS WEEK

SEPT. 26, 1953



You may have overlooked a rather startling development in the money market this week: Uncle Sam paid the lowest interest rate in more than two years on the regular weekly offering of three-month Treasury bills.

If you saw it, you may have figured it meant very little to you. But it can mean a lot—in dollars and cents.

Money rates in general and the Treasury bill rate in particular are a pretty erudite and esoteric business.

But when the Treasury pays an interest cost of 1.96% for short-term money one week and only 1.64% the next, it's worth noting. That's just what happened on the last two weekly offerings of \$1½-billion.

Treasury spokesmen warned that it may be just a flash in the pan. But long-term government bonds went up, and so did high-grade corporates.

This week's money market developments could mean that the decline in bond prices is over—that interest rates have passed their peak. The signal may be premature, it's true. But it has to be noted.

Here are some surface symptoms of the change in the money market:

**Treasury bills:** Last week's offering was sold on bids that brought an average interest rate of 1.634%; a week earlier, the rate had been 1.957%, and the high was 2.416% as recently as last June 1.

**Treasury bonds:** The longest-term issue—the 30-year 3¼s—sold above 101½ on Tuesday, the highest since they were issued last April.

**Corporate bonds:** The Dow-Jones average of utility bonds rose more than half a point on Tuesday, an unusually wide one-day move. This index to high-grade issues, which clearly mirrors rate trends, now is at about 94 (up a point from the low, down 10 from the 1951 peak).

How did the money market happen to make its turnabout?

Certainly not because demand for funds had fallen off. Business borrowing is going up seasonally, there still are screams of "tight money" from the mortgage market, and Uncle Sam has his deficit to finance.

There has been talk, however, of the Federal Reserve acting before money became "too tight." In fact, stories of a cut in banks' reserve requirements have been so prevalent as to look as though they might have been inspired to stifle political criticism of credit policy.

Bankers this week had much to say about the outlook for loans.

Members of the American Bankers Assn. gathered in Washington for their annual convention. And many were the private predictions that slower business and declining inventories would cut loan demand before yearend.

Money needs of the federal government will be felt a good deal less in the marketplace next year.

This was emphasized at this week's banking convention by Treasury Deputy Randolph Burgess. A smaller deficit will make the difference.

The Treasury will, it is true, have a huge volume of old securities to "roll over" next year. But the important thing, from the standpoint of

# BUSINESS OUTLOOK (Continued)

**BUSINESS WEEK**  
**SEPT. 26, 1953**

demand for money, is that its need for new funds will be small. (Even with the books technically out of balance, cash income may meet outgo.)

The rollover will be felt mainly to the extent that the Treasury tries to get its securities out of the banks and into private hands.

•  
Availability of mortgage money continues a bone of contention. Here are three shades of opinion from this week's news:

The federal housing chief, Albert M. Cole, told the conventioning bankers there are signs of an inadequate supply of funds to support a sound building program. He warned of possible direct government action.

W. Harold Brenton, outgoing president of the American Bankers Assn., expressed no concern at all about the supply of mortgage money.

Emanuel M. Spiegel, head of the National Assn. of Home Builders, accused lenders of going back to the horse-and-buggy days of high down payments, high interest, high monthly payments, and second mortgages.

•  
Brightest spot in a week studded with business news was Treasury Secretary George M. Humphrey's assurance of tax cuts at yearend.

This, along with the apparent turnaround in interest rates, put new life into the floundering stock market (page 25) at midweek.

Wall Street has been talking bravely in terms of the excess profits tax expiring and of the 10% cut in individual rates. Nevertheless, Humphrey's promise came at a time when it was sorely needed.

•  
Lighter taxes will be one of the factors helping to relieve the letdown in business that appears at the moment to be developing.

Not only will consumer purchasing power benefit, business purchasing power also will be bolstered—a point of some importance to construction, to capital goods producers, and to suppliers of materials and parts.

There remains the point, however, of keeping both business and the consumer from being frightened to the point where neither will spend.

•  
Some of the present efforts to support confidence by talking sweetness and light appear a little short-sighted.

More realistic is Sec. Humphrey's attitude. Admitting the possibility of some decline in business, he declared:

"I do not believe in blind faith. If trouble is possible, just the opposite is indicated. Keep your eyes open, seek out the soft spot, and see what can be done about it."

He added that he sees "nothing to shiver about." And he declines to believe that the stock market break "is a sure sign of disaster."

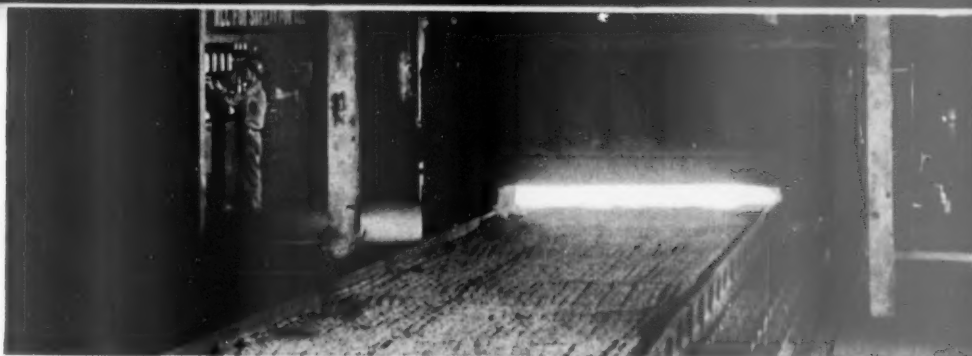
•  
Retail sales, even with weather working against them, show no sign that the consumer is worried.

The turnover for all types of stores in August (seasonally adjusted) once again topped \$14-billion (for the 11th month in a row). The gain over a year ago was 5.8%, the same as it had been the month before.

Durable goods account for all of the gain this time, however. Weather pushed volume in nondurables below July and barely even with a year ago.

Contents copyrighted under the general copyright on the Sept. 26, 1953, issue—Business Week, 330 W. 42nd St., New York, N. Y.

**SINTERING OPERATION.** The concentrated ores, ground powder-fine, are mixed with anthracite coal dust and "sintered"—solidified by heating—into a clinker-like product for delivery to blast furnaces. If this were not done, the fine ore would be blown out of the furnace.



(Color photos by d'Arazien)

**THE PLANT AT BENSON MINES.** Ore mining here begins with a quarrying operation. This huge plant crushes the rock, separates the usable ores from wastes.



## J&L Pioneers the "Manufacture" of High Grade Iron Ore

In Minnesota, Michigan, and elsewhere in the U.S. there are practically untouched reserves of billions of tons of low-iron-content ores. At Benson Mines, Star Lake, New York, J&L is pioneering in the use of some of these ores.

Here in the Adirondacks are quarries of rock averaging less than 25% iron content, as compared with the 50 to 54% average of high grade ores. What's more, the quarries contain both magnetic and non-magnetic ores.

J&L blasts this rock, crushes it, grinds it

to a powder. Then the ores are separated from the wastes. The final product averages 60 to 64% iron for delivery to J&L's blast furnaces. It is of uniform high quality, is available year 'round, with 100% rail hauls.

Beneficiation of these "low-grade" ores will play an increasingly important role in steel operations in the years to come. At Benson Mines, J&L is making these ores a part of its modern steel production on a practical, economical basis.

**JONES & LAUGHLIN STEEL CORPORATION**  
PITTSBURGH

Meet your HOMEtown Insurance Agent

## **HE KEEPS THE HOME FIRES FROM BURNING!**

Your Home Insurance agent is a handy man to have around when the leaves start falling! He knows that even a harmless-looking leaf fire can suddenly blaze into danger. He is an expert on safety and his keen sense of community welfare makes him a true public servant. Fall and winter, spring and summer, your insurance agent works for you and your family, your friends and neighbors, your entire community.



As an independent businessman in your community, the insurance agent has a real stake in local progress and prosperity. That's one reason he does so much to protect the property and possessions of homeowners and businessmen alike. Another reason: he's a good friend as well as a good counselor!

**Your HOMEtown Agent can serve you well—see him now!**



*In the century since its founding in 1853, The Home has worked constantly to help firemen get better equipment and to help prevent fires. Insurance and fire-fighting are partners in protection.*



### ☆ THE HOME ☆ *Insurance Company*

Home Office: 59 Maiden Lane, New York 8, N. Y.

FIRE • AUTOMOBILE • MARINE

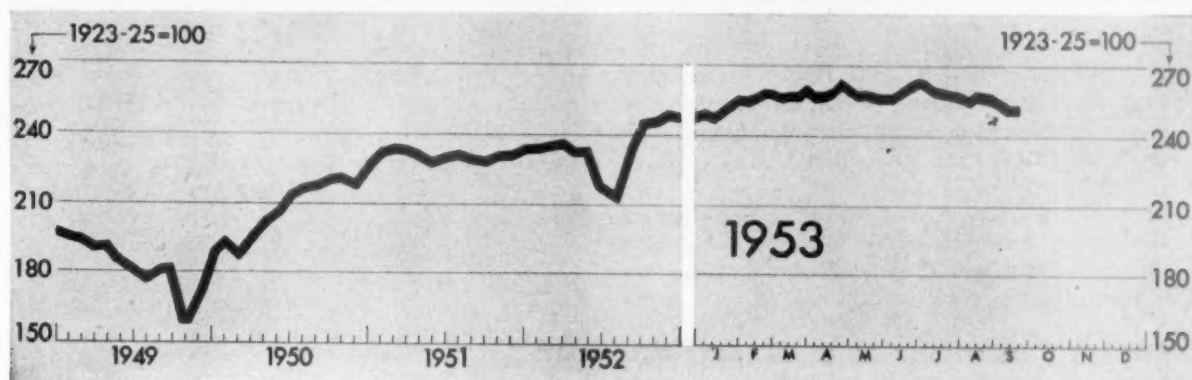
The Home Indemnity Company, an affiliate, writes  
Casualty Insurance, Fidelity and Surety Bonds



*The Home, through its agents and brokers, is America's leading insurance protector of American homes and the homes of American industry.*



# FIGURES OF THE WEEK



**Business Week Index (above)** . . . . . \$ Latest Week    Preceding Week    Month Ago    Year Ago    1946 Average

## PRODUCTION

Steel ingot production (thousands of tons).....	2,120	†2,060	2,106	2,160	1,281
Production of automobiles and trucks.....	146,517	†122,863	163,635	147,748	62,880
Engineering const. awards (Eng. News-Rec. 4-week daily av. in thousands).....	\$46,524	\$43,029	\$46,301	\$41,401	\$17,083
Electric power output (millions of kilowatt-hours).....	8,395	7,963	8,432	7,725	4,238
Crude oil and condensate production (daily av., thousands of bbls.).....	6,495	6,506	6,619	6,518	4,751
Bituminous coal production (daily average, thousands of tons).....	1,623	†1,604	1,589	1,975	1,745

## TRADE

Carloadings: manufactures, misc., and l.c.l. (daily av., thousands of cars).....	76	76	77	81	82
Carloadings: all other (daily av., thousands of cars).....	58	58	58	66	53
Department store sales (change from same week of preceding year).....	-11%	†+1%	None	None	+30%
Business failures (Dun and Bradstreet, number).....	182	131	122	145	22

## PRICES

Spot commodities, daily index (Moody's Dec. 31, 1931 = 100).....	411.8	414.7	421.8	426.4	311.9
Industrial raw materials, daily index (U. S. BLS, 1947-49 = 100).....	83.2	84.9	85.9	97.8	††73.2
Foodstuffs, daily index (U. S. BLS, 1947-49 = 100).....	96.6	98.6	95.0	91.4	††75.4
Finished steel, index (U. S. BLS, 1947-49 = 100).....	141.7	141.7	141.7	130.8	††76.4
Scrap steel composite (Iron Age, ton).....	\$35.33	\$37.17	\$41.67	††\$42.00	\$20.27
Copper (electrolytic, Connecticut Valley, E&MJ, lb.).....	29.950¢	29.985¢	29.915¢	24.500¢	14.045¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.).....	\$2.19	\$2.26	\$2.17	\$2.42	\$1.97
Cotton, daily price (middling, ten designated markets, lb.).....	32.76¢	32.83¢	32.93¢	38.61¢	30.56¢
Wool tops (Boston, lb.).....	\$2.12	\$2.12	\$2.12	\$2.00	\$1.51

## FINANCE

90 stocks, price index (Standard & Poor's).....	183.1	182.9	191.4	195.6	135.7
Medium grade corporate bond yield (Baa issues, Moody's).....	3.88%	3.88%	3.86%	3.53%	3.05%
Prime commercial paper, 4-to-6 months, N. Y. City (prevailing rate).....	2½%	2½%	2½%	2½-2½%	2-1½%

## BANKING (Millions of dollars)

Demand deposits adjusted, reporting member banks.....	53,527	53,034	52,671	53,932	††45,820
Total loans and investments, reporting member banks.....	79,482	79,138	79,349	76,960	††72,036
Commercial and agricultural loans, reporting member banks.....	23,295	22,957	22,940	21,692	††9,299
U. S. gov't guaranteed obligations held, reporting member banks.....	31,604	31,512	32,098	32,360	††49,879
Total federal reserve credit outstanding.....	26,464	26,179	26,575	25,249	23,883

## MONTHLY FIGURES OF THE WEEK

	Latest Month	Preceding Month	Year Ago	1946 Average
Cost of Living (U. S. BLS, 1947-49 = 100).....August.....	115.0	114.7	114.3	83.4
Retail sales (seasonally adjusted, in millions).....August.....	\$14,130	\$14,467	\$13,359	\$8,541

\* Preliminary, week ended Sept. 19, 1953.  
 \*\* Basing pt., less broker's fee.

† Revised.  
 †† Estimate.

‡ Date for "Latest Week" on each series on request.

# in BUSINESS this WEEK...

## GENERAL BUSINESS:

**IS WALL STREET RIGHT THIS TIME?** The market's 1953 downswing means a coming recession to some, but optimists recall how the Street went wrong in 1946.....p. 25

**PUSHING A NEW FARM POLICY.** Secretary of Agriculture Benson is trying to figure out a plan that will let prices drop without alienating the farmers .....p. 27

**AN AUTO SHOW AIMED AT BEAUTY, NOT SALES.** Detroit is snubbed at New York museum's exhibition .....p. 28

**BIG JOBS FOR THE BIG COURT.** Supreme Court

faces some hot, and delicate, issues: segregation, fair-trade, state labor power.....p. 30

**RETREAT IS THE ONLY WAY OUT.** Russia is trying desperately to reshape its dangerously one-sided economy .....p. 31

Business Briefs .....p. 34

## SPECIAL REPORT:

**ECONOMICS OF A GROWTH INDUSTRY.** Natural gas is the kind of industry the U.S. loves. It's growing fast in fuel and chemical sales, promises to grow still faster.....p. 85

## BUSINESS ABROAD:

**KRUPP: A FELLED GIANT WALKS AGAIN.** European industrials watch with fear and envy as Essen plants move into high gear.....p. 166

**OIL MONOPY IN BRAZIL.** New law bars all private investors from petroleum development, but costly imports should continue.....p. 168

**JAPANESE GET IN JEEP PARADE.** Mitsubishi contracts Willys to build jeeps in Japan.....p. 170

## COMMODITIES:

**A BUILDING TO CRACK A METAL MARKET.** Alcoa's new aluminum-clad home office building in Pittsburgh is designed to show off the product .....p. 138

## COMPANIES:

**PIASECKI: GETTING SET FOR MASS TRANSPORTATION** (cover). Helicopter company has two promising commercial models .....p. 144

**SMALL FORTUNE IN GIFT WRAPS.** Big-name stores and manufacturers farm out wrapping problems to Strauss-Golman .....p. 154

## FINANCE:

**HOUSTON BANKS: MOVES AND MERGERS.** Move from old downtown section to new, combines with merger swing .....p. 129

**STATE TAX TAKE** in U. S. for latest fiscal year climbs 7%.....p. 134

## INDUSTRIES:

**INDUSTRIAL TRUCK** makers get

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merger fever in rush to cash in on expected bonanza in materials handling .....p. 110

## LABOR:

**AFL BIDS FROM NEW STRENGTH.** Federation appears to be entering a new era under Meany.....p. 174

**WHAT RAILROAD WORKERS WANT.** Big wage increases, heavy fringe benefits will be sought in next month's contract battles.....p. 176

**THE LABOR ANGLE:** Union tug of war inside NLRB.....p. 179

## MANAGEMENT:

**BIDDING FOR EXECUTIVES IS LIVELY, HIGH.** Business expansion, fears of tighter markets create increasing demand .....p. 114

**INSURANCE SWEETENS SALARY.** Many companies are setting higher ceilings on executives' group insurance policies .....p. 120

**SETTING UP A RESEARCH ARM.** Offshoot of Thompson products will delve into electronics.....p. 126

## MARKETING:

**THE LURE OF THE GIVEAWAY.** Something-for-nothing stages a comeback .....p. 41

**GETTING OUT OF A TRAP.** Butler Bros. thinks it has found answer to troubles of a general line wholesaler .....p. 46

**"FREE" REVIVAL.** FTC eases ban on book club ads.....p. 52

## THE MARKETS:

**INCOMES: KEY TO COMMODITIES.** The tie between consumer income and industrial commodity demand remains close, and personal incomes sustain high price level.....p. 172

## PRODUCTION:

**TV WARMS UP FOR THE SHIFT TO COLOR.** It raises more manufacturing problems than going from radio to TV did.....p. 65

**PUSH-BUTTON LINE FOR AMMUNITION.** Rockford Ordnance Plant can be called an automatic factory without computers .....p. 68

**NEW PRODUCTS**.....p. 76

## RESEARCH:

**THE MAD RACE FOR ANTIBIOTICS.** For people, it's in its last stages, but there are new fields yet to be explored .....p. 186

**WHEAT RESEARCH.** Washington farmers tax themselves to buy land for study of methods to check the spread of smut .....p. 196

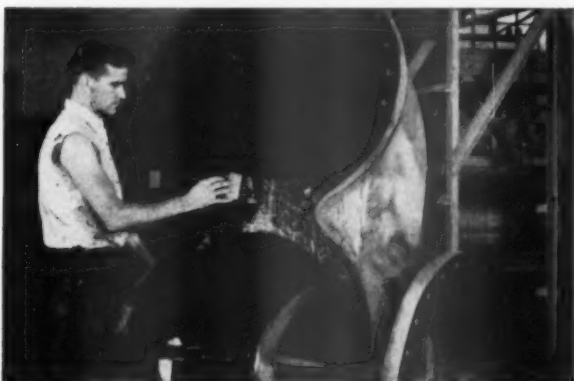
## LOOK WHAT RUBBER PRODUCTS MADE WITH NEOPRENE ARE DOING



**DURABLE VALVE SHIELD** of neoprene gives positive protection against acid spray from faulty valve stems. Neoprene's resistance to sunlight, weathering, and most chemicals assures long service—its flexibility makes inspection easy.



**FAST-SELLING HOUSEHOLD GLOVES** made with neoprene offer many advantages to the housewife. These durable gloves withstand solvents, detergents and household oils and grease . . . outlast ordinary gloves many times over.



**LONG SERVICE LIFE** for a ship's sea valve is assured by applying a tough neoprene coating to the inside surfaces. Such a coating protects the metal against salt-water corrosion, erosion and galvanic attack . . . is so resilient no gasket is needed.



**OTHER PROFITABLE NEOPRENE PRODUCTS**—the result of imaginative thinking by executives—are fully explained in this free, illustrated booklet, "Design for Success with Neoprene." Be sure to send in the coupon below for your copy.

## How to profit with neoprene in products you make or use

Many resilient materials have one or two desirable characteristics. But neoprene, Du Pont's chemical rubber, offers you a balanced combination of *many* such characteristics. For manufacturers, this means a product made with neoprene has a greater number of compelling sales points. And for the ultimate con-

sumer, these same advantages are an assurance of lower maintenance costs, longer product service life.

Perhaps neoprene can improve *your* product or help you solve a production problem. Just send in the coupon below for more information about Du Pont neoprene and its many applications.

# NEOPRENE

The Rubber Made by Du Pont Since 1932



REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

### MAIL THIS COUPON FOR FREE BOOKLET!

E. I. du Pont de Nemours & Co. (Inc.)  
Rubber Chemicals Division BW-9, Wilmington 98, Delaware  
Please send me your free booklet describing neoprene's properties and applications.

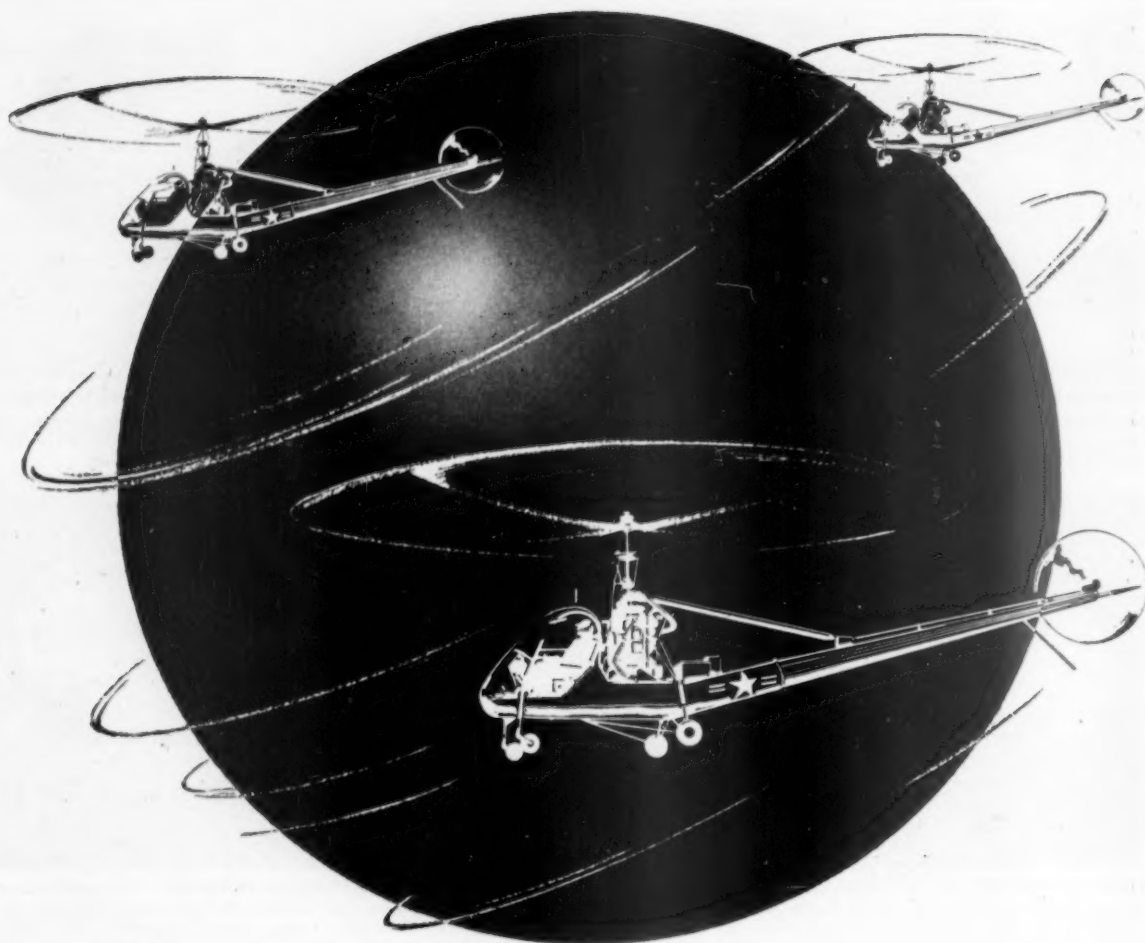
Name \_\_\_\_\_ Position \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_





## Revolution in Accuracy

Rescue work . . . submarine hunt . . . aerial photography . . . the Hiller helicopter is a versatile performer. It can hover in one place, move up and down, forward and backward. That's why the Hiller demands bearings that carry all loads, that *stay* rigidly accurate, even under sudden shifts in blade speeds. New Departure meets that demand with bearings for Hiller applica-

tions shown below. Besides such heavy duty applications, New Departure makes a wide range of minute bearings for sensitive aircraft instruments. *Every* New Departure bearing—from midget to giant—is backed by the industry's most complete research and engineering facilities—all of which stand ready to serve the manufacturers' design and engineering staffs.

NOTHING ROLLS LIKE A BALL



Main transmission of the Hiller helicopter uses New Departure bearings in the clutch assembly.

### NEW DEPARTURE BALL BEARINGS

NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONNECTICUT  
Also Makers of the Famous New Departure Coaster Brake



Tail rotor gear, box, another of the Hiller's vital moving parts, is equipped with New Departure ball bearings.

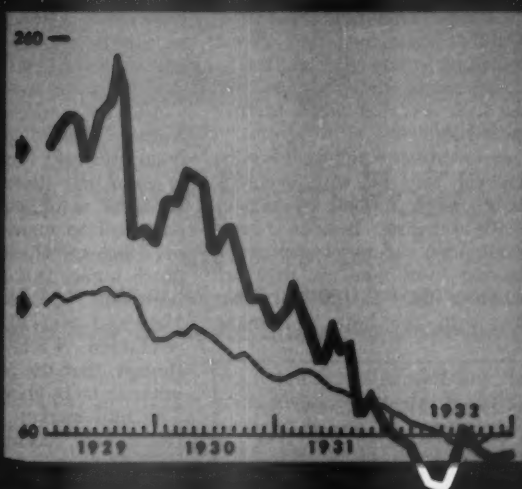
## DOES THE STOCK MARKET KNOW WHERE BUSINESS IS HEADED?

TWICE IT DID

1929

Stocks  
Crashed

Business  
Collapsed



1937

Stocks  
Broke

We Had a  
Recession



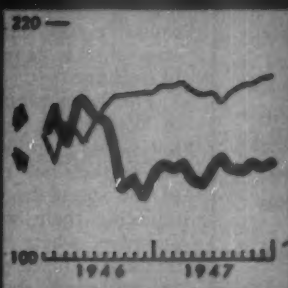
ONCE IT DIDN'T

AND.....

1946

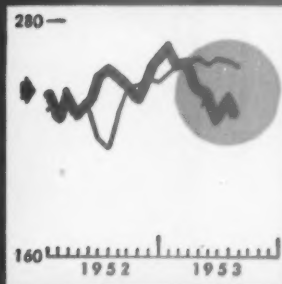
Stocks  
Broke

But Business  
Boomed



... NOW

STOCKS  
ARE  
BREAKING  
AGAIN



Data: BUSINESS WEEK's Index of Business Activity; Standard & Poor's 50 Industrial Stocks.

BUSINESS WEEK

## Is Wall Street Right This Time?

Nobody has yet perfected the automatic and perfect business forecaster. And, until that's done, you'll always find a certain number of people watching the direction of stock prices.

This may not be sound economics. Certainly it wasn't in 1946 when the

stock market made one of its worst guesses of all time. Yet a decline in stock prices has both psychological and dollars-and-cents impacts.

• **Durable Hunch**—Deep thinkers may argue that the stock market has lost whatever reputation it once enjoyed as

a forecaster. Certainly the character of stock ownership (and the quality of day-to-day buying) is very different in 1953 from what it was in 1929. Yet everyone finds it hard to dispel a hunch that Wall Street may be right.

That hunch is evident today just as it

has been many times in the past. Perhaps it is more forceful than usual in influencing business opinions: Not only has the stock market been declining since early this year but most of the economic pundits are also counseling caution.

Most people at least agree by now that we are in—or have been in—a bear market.

• **"Nothing Serious"**—Those who believe the market decline has been overdone are numerous. Generally speaking, they'll admit that business may not be able to hold at recent levels—that there will be some decline in government spending and in the level of auto sales and home building. But they can't see a serious slump.

Some will tell you that the government can—and will—take steps to prop the business curve. Others figure on the familiar "rolling adjustment" taking care of business ills with activity shaking down to new, but still very high, levels.

There's the argument, too, that it doesn't matter much if you buy when the market averages read 240, 250, or 260 if they are going to climb, several years from now, to 500 or 600. That's the vision of steadily rising population, expanding markets, and rising standards of living.

• **More Than Theory**—This could

sound like the vaporizings of theorists who would like to talk themselves out of a hole. But there is money talking, too.

You saw it after the sharp break the market took a week ago Monday. After such a price slump in the old days, you could have counted on a bad opening Tuesday morning. But that isn't the way it has worked in recent years. After a tumble, you always see the bargain hunters rushing to buy. So a rally followed the break—and it churned up big trading volume in its early stages.

Of course, today's market always has another stabilizing factor. The institutional investors such as investment trusts and insurance companies are constantly taking in new funds.

Institutional investors don't necessarily think the bear market is over. They don't care. They follow the principle of dollar averaging; they invest no matter which way the market is going. The stocks they buy on the way down look just that much prettier on the next rise.

Such an investment policy, however, isn't practical for the vast majority. Few have enough money coming in regularly for averaging. Besides, a good many people aren't so much concerned about buying more now as they are about whether they should sell what they have with the hope of buying

the securities back later at a lower price.

• **How Much Recession?**—One leading advisory service told clients this week that it was time to put some of their idle balances to work. However, there is by no means unanimity on this score. A good many qualified observers fear that the much-discussed recession is not going to be so minor.

Their doubts go beyond the level of government expenditures, auto sales, and home building. They also suspect that business spending on new plant and equipment will be well past its peak by next year. And they are even more afraid of an inventory jolt.

Measured by these pessimistic standards, the stock market presumably could go a good bit lower. One Wall Street bear, for example, remarks that "a rally now won't be any better than those earlier this year." Another, a shade less pessimistic, declares that "bargains are being created" but that the time to buy may not have arrived just yet.

Viewed in the light of fairly recent history (charts, page 25) this stock break still isn't too severe. The average of industrial share prices has declined about as many points as in 1946 but only half as many as in 1937. Moreover, because the starting point was so much higher this time, the decline has been only 15% compared to 23% in 1946 and over 50% in 1937.

• **Hidden Facts**—It is quite true, though, that the averages conceal some internal facts about the stock market. The bull market in the oils and rails ended only recently, but their rise in 1951-52 obscured the fact that the bear market began two years or more ago for many stocks.

Thus there are sections of the market that the experts describe as "thoroughly liquidated." These segments would be expected to decline but little even if the general downtrend were to continue.

This helps explain why many people in Wall Street (even though they may not be very optimistic about the general market) will tell you: "Switch out of the speculative and cyclical stocks, replacing them with investment-grade securities where yields are good and dividends amply protected." An "amply protected" dividend is likely to be one paid by a company that already has undergone some adversity and whose earnings are calculated to recede but little from present levels even in a business slump.

• **Tax Selling**—If you buy the best stocks, though, there is one thing to remember: Tax selling is almost sure to be heavy between now and Christmas. The market decline has established some fairly heavy losses that can be taken for tax purposes. Thus, in the next three months, any rally will be working uphill.



Donald C. McGraw

**D**ONALD C. MCGRAW has been elected president of McGraw-Hill Publishing Co., Inc., succeeding his brother, the late president Curtis W. McGraw.

Donald McGraw is the youngest son of the company's founder,

the late James H. McGraw, Sr. He has been associated with the company since 1919. He has been a director since 1935, vice-president since 1945. During World War II, he was a consultant to the publishing and printing division of the War Production Board.

He joined McGraw-Hill in 1919 as an advertising staff member of the magazine Chemical and Metallurgical Engineering, which has since become Chemical Engineering.

Since 1933, when he was made company secretary and put in charge of production and manufacturing, he has been responsible for the handling of all contracts for printing and binding, engraving, and paper supply for the entire McGraw-Hill operation.

In 1945, he was named vice-president for manufacturing and general services, the position he has held until now.





WHEAT piles up the streets and piles up headaches for Administration . . .

## Pushing a New Farm Policy

Benson's Wisconsin speech set pitch; it will mean lower prices—and a wrangle; but wheat proposals would coat bitter pill with new domestic allotment payments.

Ezra T. Benson has taken on a new job—one that overshadows all those that regularly plague a Secretary of Agriculture: He must try to allay the growing economic worries of farmers. And indications are that he'll try his hand with the wheat farmers first.

Benson laid down his general line last week, at a plowing match in Wisconsin, in a speech that had advanced billing as his "most important" since taking office. He made it clear that he would definitely propose a new program to Congress next year to substitute for present laws that expire at the end of 1954. The plan for wheat is already under study.

• **No Switch**—Nobody knows whether the speech made farmers feel any better, for the farmers are traditionally tight-lipped. Those who read only newspaper accounts of the speech probably got the impression that Benson had changed his views, that he publicly backed to the hilt the price support laws that are now on the books. Most of the stories featured the Benson phrase to the effect that present programs "don't go far enough."

But Farm Belt members of Congress are giving the speech a sober second reading. And what they see is not making them any happier.

Instead of being an endorsement of existing farm laws, Benson's speech

was a cautiously worded but thoroughgoing attack on present high level price supports—in effect, a reiteration of the stand that gave the Republican farm bloc the jitters earlier this year.

• **Specific**—Benson, in his speech, repeated in several different ways his belief that high mandatory supports cause trouble. Specifically, he blamed them for pricing farm commodities out of foreign markets, and in some cases even out of the domestic market.

Along with his criticism, Benson was clear on his intention to propose new programs.

If he sticks to his guns—as he has so far—the heart of Benson's proposals will be lower prices. This is bound to bring a wrangle in Congress.

• **Painful**—In his Wisconsin speech, he did not say he could solve the problem of high supports easily. "Adjustment from war and inflation is always painful," he said. All he promised was that the Administration would help farmers make the adjustment "as easily as is humanly possible."

Benson, at least, is ready for a fight. But he'll find members of both parties in Congress sensitive to farmers' fears about prices—which have declined 12% the past 12 months.

Democrats talked a lot about farmer unhappiness at their rally last week in Chicago. They gleefully passed around

results of a Minnesota poll that indicated that state would split almost evenly today in an Eisenhower vs. Stevenson race, although it gave Eisenhower a solid majority last year.

• **Crux**—The crux of Benson's problem is to make lower prices politically palatable.

The chocolate coating he is studying for wheat is a revival of the domestic allotment idea of the 1920s. His Wheat Advisory Committee has recommended it, and chairman Clifford Hope of the House Agricultural Committee is going to talk about it at hearings in wheat areas soon.

• **Plan**—Here's how it would work.

Prices of unprocessed wheat would be allowed to drop to a free market—a world market—level. In place of present loans at 90% of parity, farmers would be given certificates for the difference between the market price and 100% of parity—but only on the proportion of their crop that would normally be consumed domestically.

If the "domestic allotment" were set at 80% of the total U.S. crop, for example, then a farmer who raised 1,000 bu. would get certificates on 800 bu. Say the spread between the free market price and 100% of parity was 60¢ per bu. then he'd cash his certificates at a local bank for \$480 and sell his 1,000 bu. at market price.

• **Paying**—The money to back up the certificates might come from a processing tax paid by U.S. millers. One proposal discussed would require the processor, for every bushel of wheat milled, to "purchase" a certificate at its face value. In a sense he would be buying these from farmers, with the U.S. Treasury as go-between.

The effect would be that unprocessed grain would move freely at a world price. Processed grain would go to domestic consumers at a supported price.

Spokesmen for processors don't seem to worry over this idea, though they don't like the idea of resulting higher domestic flour prices and would rather see payments to farmers out of general Treasury revenue. They think the lower market price might help to recapture export trade.

• **Separate**—The wheat idea seems to indicate Benson is heading toward separate plans for the major crops, not a single over-all farm program. Present laws have worked reasonably smoothly with tobacco, and he may recommend they continue. That may go for cotton, too. Corn will be a major problem. Present control plans are inadequate, and so much of it is consumed on farms as livestock feed that a processing tax could not be enforced.

No matter what he proposes, Benson will face a skeptical and nervous election-minded Congress.



**PININ FARINA**, Italian designer, pioneered the "envelope" body that is characteristic of the postwar model cars shown at New York's Museum of Modern Art. Farina did this Nash-Healey, which has a U. S. engine modified to a British chassis.



THE "ENVELOPE," dominant in postwar sports car design as in this Italian-American

## An Auto

Mostly, auto shows are based on a healthy desire to sell new cars. That's not the angle of the current show at New York's Museum of Modern Art. There, the models were picked as works of art, best displaying the functional qualities of postwar design.

This is the Museum's second auto show. The first, in 1951, took in a hodgepodge of models from all countries running clear back to prewar days.



**STUDEBAKER**, only U. S. designed entry, blends the envelope with the lid on a tray. It was designed by Raymond Loewy.



Cunningham, may already be past its peak. Probably the successor is the . . .



"LID ON A TRAY" design, here exemplified by the German Porsche, a rich man's offshoot from the much touted Volkswagen. The engine is in the rear.

## Show Aimed at Beauty, Not Sales

The new show is strictly limited to the postwar, which in a sense means that it is limited to the school of Pinin Farina, the great Italian designer who pioneered the "envelope" body.

In the current show, seven of the nine cars are either Farina designed or else adhere closely to his methods. Only one, the German Porsche, completely departs from the "envelope," in favor of the "lid on a tray" design, which

some people believe will soon completely supplant the envelope in sports cars. The ninth, the Raymond Loewy-designed Studebaker, blends both schools.

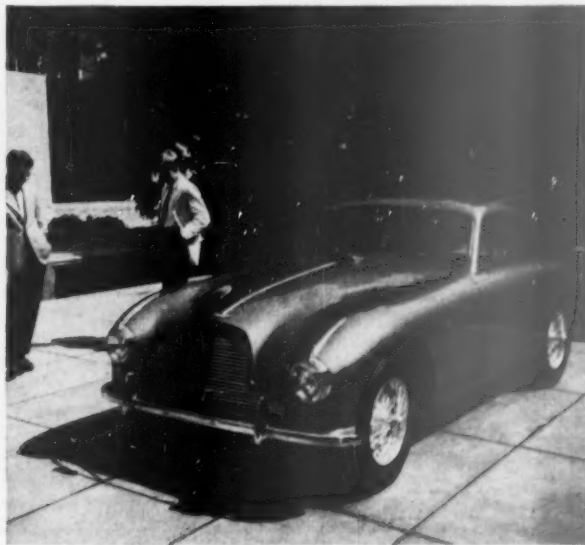
An American eye, long dazzled by lavish deckings of chromium, is struck by the simplicity of all the cars in the show. Arthur Drexler, curator of the museum, says the cars were picked by this yardstick: that no detail should

stand out from the design as a whole.

Most of the models showed a Spartan disdain for American canons of size and comfort. The Museum's theory: The driver should know he was on the road, rather than be lulled in an overstuffed rolling salon. One car on display, though, compromised. The Cunningham—an Italian body powered by a Chrysler engine—permitted itself a degree of bulbous comfort.



SIMCA, a 1950 mass-produced French entry, is very much in the Farina tradition. Later models have diverged rather sharply in the direction of elaborate body work.



ASTON-MARTIN also shows the Farina influence, with typical British overtones. It's designed for both touring and racing, and is in the upper price brackets.



# Big Jobs for the Big Court

With or without a new chief justice, the Supreme Court still faces some hot, and delicate, issues. Among them: segregation, fair-trade laws, state labor jurisdiction.

President Eisenhower is about to make the biggest single appointment any President has a chance to make—a new chief justice for the U.S. Supreme Court.

He will be appointing the head man for the third co-equal branch of the U.S. government—the federal courts. Only 13 of the previous Presidents have had to fill this post.

• **One Vote**—Paradoxically, the filling of a vacancy—even that of chief justice—will have little immediate effect on the court as a whole. When you come right down to it, the chief justice has the same single vote in deciding cases as the other eight justices. If the chief justice is to make any extra impression, it has to come from the weight of his personality and intellect—plus a long time in the job.

The late Chief Justice Frederick M. Vinson is a good example. Besides his other qualifications, Vinson was named for what he could do as a conciliator and pacifier to keep wrangling between Justices Jackson, Frankfurter, and Black from showing in public.

Vinson did this particular job well. But in another situation—the confusion caused by the trend toward dissent—Vinson was unable to make any noticeable progress in his five years on the bench.

When the votes are close—5 to 4 or 6 to 3—the majority opinion is always weakened, of course. But lawyers and businessmen are even more confused by the trend toward the writing of separate opinions. A case frequently winds up with more than one majority opinion, and more than one dissenting opinion.

This makes lawyers on both sides feel, in many of these cases, that if the issue had been presented in a slightly different way, the court's verdict might have been reversed.

The postwar political situation hasn't thrust the court into the public eye as was true during the 1930s, when its rulings on New Deal legislation stimulated the demand that the court's majority be changed by adding sympathetic judges. Now Eisenhower and his Congressional leaders are talking more about reducing—rather than expanding—the role of the federal government.

• **Segregation**—The court's 1953-54 workload is an average one as far as number of cases is concerned. But the docket is overshadowed by a single issue: segregation. Since the end of the

war, the court has made a start—if nothing else—toward settling this delicate question.

Earlier decisions have served notice to all concerned that a "big decision" on the highly charged issue of race relations is on the way—to that extent, people are prepared for it. And the earlier decisions have already settled some of the hot segregation issues.

Among the decisions: Segregation in District of Columbia restaurants is illegal; Negroes must get equal treatment in railroad diners; Negroes must get equal access to higher education; they have the right to vote in primary elections; and restrictive housing covenants can't be enforced by the courts.

But segregation issues presented in the batch of cases the court heard last year—and put over for further argument this year—outweigh in impact all the cases decided before.

In the five related cases, the court seems to be face-to-face with a decision on the constitutionality of the 57-year-old "separate but equal" doctrine. If the court says the doctrine is unconstitutional, it would be the biggest blow yet to supporters of legislated segregation.

• **Business Cases**—Nothing on the court's docket rates with the segregation issue in public interest. But when the court opens on Oct. 5—with or without its new chief justice—it'll face a heavy schedule of other cases, many of them important to businessmen. Over 500 cases already have been accepted for decision or are awaiting acceptance on the court's docket. The court may handle at least twice that number of cases before this term ends next June.

The legality of retail price-fixing laws probably will get another hearing in the court. Two cases, not yet accepted for review, clearly put fair trade's fate—and its Magna Charta, the McGuire act—into the court's hands. One involves an appeal by John Schwegmann, Jr., ardent anti-fair trader, from lower court injunctions against him for price-cutting fair-trade products in his giant supermarkets in Louisiana.

The other case is an appeal by Oneida, Ltd., from a federal court ruling that Georgia's fair-trade law is invalid.

• **Labor Cases**—A score or more labor cases are already on the docket. The most critical issue: Does federal labor law supersede state law, and how far does National Labor Relations Board jurisdiction extend in cases of mixed

interstate and intrastate commerce?

One case attacks a decision by the Pennsylvania Supreme Court, holding that the court lacked jurisdiction to stop picketing by an AFL teamsters' local. The Pennsylvania court held that it couldn't ban the picketing under a state law because the federal Taft-Hartley law also made the picketing an unfair labor practice. A decision the other way by the Alabama Supreme Court is being appealed by the AFL Building Trades Council.

Conflicting opinions by lower federal courts on NLRB jurisdiction over local retailers also are up for review. A California court of appeals said Taft-Hartley applied to a General Motors Corp. auto dealer—even though he buys and sells only in the state of California—because the parts used in assembling his cars come from outside the state. But another federal court ruled the law was not applicable, that NLRB had no jurisdiction over two Michigan Ford dealers.

• **Tax Cases**—State taxes on businesses also are well represented on the court's docket.

A group of Delaware merchants is appealing the constitutionality of a use tax imposed by Maryland on sales made in Delaware to Maryland citizens. The Delaware merchants, who are made responsible for collecting the out-of-state tax, argue that the system is illegal.

Railway Express Agency, Inc., is attacking a Virginia tax imposed on "the privilege of doing business" in the state, based on gross receipts earned in Virginia.

Michigan-Wisconsin Pipe Line Co. and Panhandle Eastern Pipe Line Co. are trying to upset a Texas occupational tax on the business of gathering gas later sold to pipeline companies for interstate sale. And Missouri wants to upset its own state supreme court ruling invalidating a privilege tax imposed on interstate gas companies with lines in the state.

• **Bits and Pieces**—Other cases coming up include:

**Baseball:** Is it still a sport or really just a big business—and so subject to antitrust damage actions?

**Airlines mail pay:** Must the Civil Aeronautics Board offset profits earned on domestic mail routes against the subsidy needed to support a line's international routes?

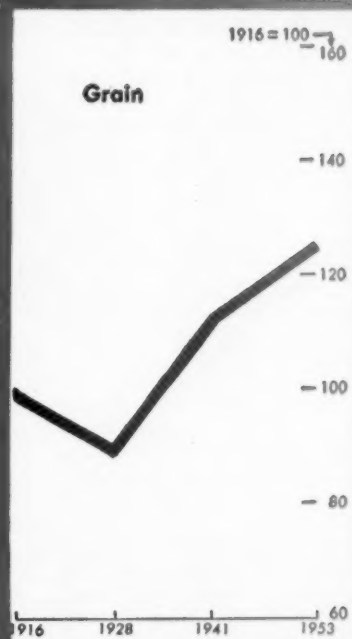
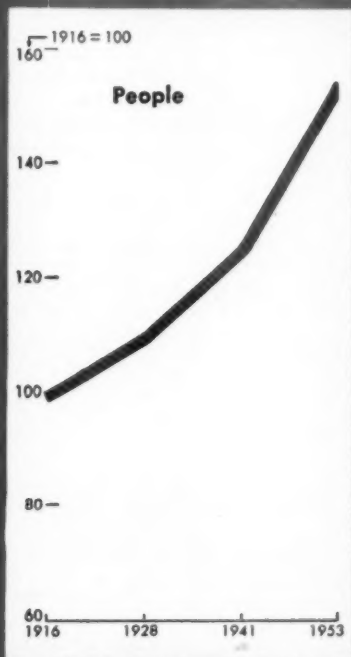
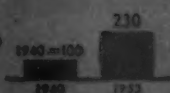
**Radio and TV lotteries:** Can the Federal Commerce Commission ban major network giveaway programs (page 41) as illegal lotteries?

**Book-of-the-Month Club:** Is use of the word "free" in advertising an unfair trade practice?

**Communist activity:** Can a state liquidate insurance companies on grounds of Communist sympathies and support?

## Russia's Economic Trap:

Industrial Output Has Made Giant Strides



But For Many More People...

...Russia Has Fewer Cattle...

...And Only A Little More Grain Than Under The Czars

## Retreat Is the Only Way Out

Russia's new rulers have launched a desperate drive to reshape the lopsided economy they inherited from Stalin. By their own admission, Malenkov and his lieutenants face a farm crisis that threatens Russia's industrial progress and perhaps the foundations of their power. They now admit what a handful of Western experts on Russia have long contended—that Stalin built Soviet industrial and military life not merely at the expense of the Russian peasants but at the risk of an ultimate breakdown of the Soviet agricultural system. And so, instead of concentrating on expansion of heavy industry, as Stalin did to the end, the new regime is trying to jack up Russia's sagging agriculture and thus raise living standards in both the city and the countryside.

• **Desperation Move**—Chances are, the shift in economic policy will eventually prove as drastic as Lenin's turnabout in 1921, when he launched the New

Economic Policy (NEP) and brought back the free market to save the Bolshevik system from complete breakdown. Something on the same order may be necessary now if the new regime is to stay in power.

In any case, certain things are pretty clear about Malenkov's NEP:

- The policy has been forced on the Kremlin by the stubborn resistance of Russian peasants to collectivization and bureaucratic control. To get Russian agricultural production off a near-starvation basis, Malenkov's regime may have to sacrifice a good part of the collectivization that Stalin forced down the throats of Russian peasants.

- The measure will cut deep into investments in capital goods and probably even into arms production. Although the Kremlin seems to have made no specific decision yet, the industrial targets of the current Five Year Plan will undoubtedly have to be low-

ered as the targets for agriculture and consumer goods go up.

- Unless the shift can be handled quickly and smoothly—which seems almost impossible—the new Soviet regime will be weakened by its admission that Soviet agricultural policy is bankrupt.

- This retreat from Stalinism on the home front will probably be followed, sooner or later, by a retreat in the cold war. Russia may be forced to turn in on itself so completely that it will even pull in its horns abroad, especially in Europe.

- **Rumblings**—It was Malenkov who first charted the new economic course publicly—in his speech to the Supreme Soviet on Aug. 8 (BW—Aug. 15 '53, p27). Then, early in September, the new first secretary of the Communist party, Nikita S. Khrushchev, spelled out the agricultural facts of life in a four-day session of the party's Central Com-

mittee. At the same time, there was a sweeping reorganization of Soviet government departments. This has put new emphasis on agriculture and the production and distribution of consumer goods.

Khrushchev's gloomy picture of Soviet agriculture, which was carried in every detail by the Soviet press, must have been a shock to many Russians—especially those who believed the propaganda that always surrounded the Five Year Plans under Stalin. Here's what Khrushchev admitted:

Since the Bolshevik revolution, Soviet farm output has lagged behind the growth of Russia's population (charts, p. 31). In absolute terms, grain production is somewhat higher than in 1916 under the Czars or in 1928 just before collectivization. But on a per capita basis it is lower. And the output of beef and dairy cattle is actually lower in absolute terms—down from 58.4-million head in 1916, and 66.8-million in 1928, to 56.6-million in 1953.

True, Khrushchev had some substantial gains to report in nonedible crops such as cotton and flax. Even so, it's clear that gross agricultural production on a per capita basis has declined since 1928.

• **The Trap**—The Malenkov regime has two good reasons for moving fast to deal with the agricultural bankruptcy it has inherited. For one thing, the living standard of urban industrial workers is threatened just at a time when Malenkov has promised to raise their consumption.

Second, the Malenkov regime must be haunted by the specter of real unrest, not just passive resistance, among Russian peasants. Recent events in eastern Europe give warning of what might lie ahead in Russia itself.

• **Ways Out**—The emergency remedies proposed by Khrushchev, and approved by the Central Committee, show how alarmed the Kremlin has become.

The peasants' burdens have to be lightened, and at the same time incentives must be strengthened. This goes for the collective farms as such—but the Kremlin is basing its hopes for higher food output primarily on each collective farmer's private plot of land.

Up to now these plots have been burdened with high taxes and heavy compulsory deliveries for the state, which the peasant has been trying to avoid by keeping his production down. Under the new rules, the tax on the private plot has been nearly halved, debts canceled, compulsory deliveries reduced, and prices raised for produce sold to the state. It's by concessions like these, rather than promised increases in tractors and fertilizer, that the Kremlin apparently hopes to make friends with the farmer.

• **A Failure**—Both Khrushchev's figures

and his remedies offer proof—if any was needed—that in terms of agricultural output, collectivization has failed miserably in Soviet Russia. True, Stalin was able to get farm produce for the cities at very low prices.

The Malenkov regime doesn't admit this, of course. But the history of Soviet agriculture since the Bolshevik revolution suggests that the Russian peasant, as much as the Kremlin, will call the tune from now on.

• **Parallels**—In the early days of the Bolshevik Revolution, most of the peasants supported Bolshevism because it had broken up the great feudal estates. But toward the end of the civil war, the peasants turned against the Soviet regime; Communist commissars were requisitioning their grain and paying for it with worthless currency. If it hadn't been for Lenin's NEP, which restored the free market in all farm products, peasant opposition might well have upset the Soviet regime.

In 1926 came a crisis that finally led to collectivization. The government couldn't sell industrial consumer goods in the countryside at reasonable prices, and the peasants struck back by sabotaging grain deliveries to the cities. Stalin answered with collectivization.

By 1937, the peasants had regained enough strength to force one big concession out of Stalin—a private plot of land, usually no more than half an acre, for each peasant on the collective farm. Then, when World War II hit Russia and Moscow's control over the countryside weakened, the peasant extended his private plot. Many became rich as a result.

After 1945 the peasant lost ground again. The first postwar currency reform wiped out his savings. The private plots were reduced to their original size. Then in 1949 Stalin decided to start liquidating the private plots. He ended by trying to set up agrogorods (agricultural cities), thus uprooting the peasant completely. But once more the peasant fought back, and Stalin capitulated.

• **Retreat**—Now the Kremlin is engaged in a retreat that probably will give the peasant much the same freedom in operating his private plot as he had during World War II. This, plus government measures to increase delivery of fertilizers and tractors, will undoubtedly boost living standards on the farm.

Whether it will lead to any real increase in the supply of food to Russian cities is another matter. The power struggle now going on in the Kremlin may reach a stage where one group, perhaps backed by the Red Army, will try to reach the top by liberating the Russian peasant from collectivization.

• **Ripples in a Pool**—Whether or not the new agricultural policy influences

the political balance in Russia, it is sure to affect the economic balance. There is only one way for the Kremlin to find resources for this program and for more industrial consumer goods: It'll have to allocate a smaller proportion of the state budget to heavy industry and armaments.

What's more, the Kremlin's retreat before the Russian peasant can't fail to show up in Soviet foreign policy. With a shift like this under way on the domestic front, the Kremlin won't dare risk any kind of serious crisis in international relations. Russia may even be forced, soon, to pull out of Eastern Germany and Austria.

Already there are signs of a new strategy in foreign trade. Moscow has been making big purchases of butter and other fats from abroad. There are reports of heavy Soviet purchases of copper, presumably to allow for expansion of consumer-goods industries. The chances are that Moscow will soon be buying large quantities of cotton textiles in both Britain and France.

## New England Steel Mill Comes to Life Again

Two years ago, Bethlehem Steel Co. turned down the opportunity to build a steel mill in Connecticut on the ground that it wasn't an economically sound venture (BW—Sep. 1 '51, p. 25).

This week it appears that New England may get its steel mill after all. It won't be the mammoth project that was originally planned. But if it's built, it will be a source of steel ingots—and that's the important thing to New England.

• **New Blood**—Here's what has happened: All stock in New England Steel Development Corp. (set up two years ago by New England businessmen to promote the original mill) has been sold. The new owner last week applied to the National Production Authority for a new certificate of necessity to allow quick amortization on a \$26-million electric-furnace steel mill, at Waterford, Conn.

Nominally, the new owner of the development corporation is Reid & Priest, New York law firm. Reid & Priest is counsel for Ebasco Services, Inc.—well-known consulting engineering company—which admits that the action is being taken in behalf of one of its clients.

The purchasers of the development corporation stock have promised the New England Council, former sole owner, that they'll make a thorough investigation of the feasibility of operating an electric-furnace steel mill to supply the New England market.





## How 6 companies saved a COOL MILLION!

By Mr. Friendly



In 9 years American Mutual helped the Heintz Mfg. Co. of Philadelphia, save \$465,000.00.



In 8 years we helped Continental Mills, Lewiston, Maine, save \$66,000.00.



In 6 years we helped the Sealed Power Corp., Muskegon, Michigan, save \$156,000.00.



In 8 years we helped publishers, Houghton Mifflin of Boston, Massachusetts, save \$48,000.00.



In 10 years we helped Utica Drop Forge & Tool Corp., Utica, New York, save \$242,000.00.



In 8 years we helped the Acushnet Process Company, New Bedford, Massachusetts, save \$227,000.00.

Total: \$1,204,000, or cooler than the coolest million you've ever seen.

### AMERICAN MUTUAL

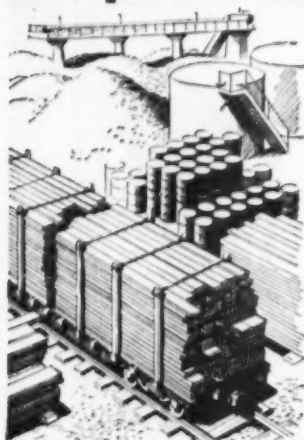
Service from salaried representatives in 78 offices!  
Savings from regular substantial dividends!

©1953, AMERICAN MUTUAL LIABILITY INSURANCE COMPANY



**P.S.** In every case we helped reduce accidents and insurance costs and returned substantial dividends on premiums. If you're interested, we'll see that you get full information on all 6 cases! Write: American Mutual Liability Insurance Co., Dept. B-101, 142 Berkeley Street, Boston 16, Mass.

# Raw materials were this plant's big location problem...



It's often difficult to find a new location near raw materials, and to which they can be shipped economically. Yet a manufacturer of electronic tubes needing a site in the wealthy northeast market close to sources of glass sands and natural gas had no trouble with this problem. He got comprehensive, up-to-date information on the availability and cost of these raw materials at several desirable locations—within a short time—from the Industrial Location Service of the State of New York. With this data, it was easy for him to decide upon the right location.

## What's yours?

No matter what your location problems may be, the Industrial Location Service of the State of New York will be glad to get you, confidentially and without obligation, the information you need to solve them.

### YOU CAN GET AUTHORITATIVE DATA ON:

**Raw Materials:** Cost and availability of all materials and supplies you may need.

**Transportation:** Availability of facilities, cost of assembling materials and distributing finished product between any given points.

**Markets:** Industrial and consumer market data.

**Labor:** Availability, skills and rates.

**Power and Fuel:** Character and cost at any point.

**Available Buildings:** Types, condition, facilities and terms. Confidential.

**Sites:** Availability, size, character, installed services; photos and maps. Confidential.

**Community Services:** A complete report on the facilities and attitudes of any community.

**Laws and Regulations:** Full data on laws or regulations applying to any particular form of enterprise.

**FREE BROCHURE AND MAP.** Send for "Industrial Location Services," a full description of the valuable, detailed plant location information New York State will obtain for you. A 1953 large-scale physical map of the state and adjacent areas, showing elevations, transportation systems, watersheds, etc., will also be sent to you. Write New York State Dept. of Commerce, Room 740, 112 State St., Albany 7, N.Y.

## Industrial Location Service of New York State

**"WE DON'T SELL SITES—WE MATCH NEEDS"**



## BUSINESS BRIEFS

Securities monopoly suit brought by the government against 17 top investment banking houses was dismissed by Federal Judge Harold R. Medina. In an informal ruling based on a 5-million-word record, Medina threw out the case "on the merits and with prejudice." That means the government cannot renew its charges that the 17 companies had conspired to dominate the securities field in violation of antitrust law.

**Fieldcrest mills,** the textile manufacturing division of Marshall Field & Co., has been sold to an eastern group that will operate as Fieldcrest Mills, Inc. The price of the mills, which last year had \$40-million sales, was not disclosed. The new owners are individuals associated with John P. McGuire & Co., New York textile factor.

**Auto optimism:** Passenger car output will be 6,000,000 this year, and between 5.5-million and 6-million in 1954, according to Arthur O. Dietz, president of the C.I.T. Financial Corp. Dietz sees no saturation point within the next 10 years, and foresees production of over 8-million cars by 1964.

**Spice merger** is in the cards, if stockholders agree. McCormick & Co., \$35-million-a-year Baltimore spice and extract house (BW-Jun.11'49,p82), will operate Ben-Hur Products, Inc. (\$5-million a year gross sales, mostly coffee) as a West Coast division.

**Minimum rate boost** of 25% for air freight has been proposed by CAB. Interested parties can file objections in the next two weeks, after which the rates will go into effect. CAB points out that most rates are already above the minimum, so that the actual increase will rarely exceed 12%.

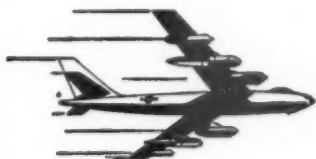
**Public and private debt** in the U.S. rose 6% during 1952 to reach \$553-billion at yearend, the Commerce Dept. reports. The department, which also notes that employment, income, and sales remained high in August, expects another 6% debt increase in 1953. Private debt accounts for 55% of the total, federal obligation for 40%, and the rest state and local.

**Gen. Harold L. George,** vice-president and general manager, and Charles B. Thornton, vice-president and assistant manager, announced their resignations from Hughes Aircraft Co. this week. The announcements followed the resignations of Dr. Simon Ramo and Dean E. Woolridge, company research chiefs, a month ago (page 126).

*See what adhesives are doing today!*



## Giving fuel tanks the slip



Building planes to outrace sound and to outdistance the Sun is the challenge the modern aircraft manufacturer faces.

Helping to give these planes the smooth-surfaced, weather-resistant skin they need to meet this challenge is 3M's task.

Take as an example, the huge drop tanks made by the Ryan Aeronautical Company for use on Boeing's Stratojet bombers. Preparing these hanging fuel tanks properly for high-speed flight is as vital as preparing the fuselage, the wings, or any other airfoil sections.

For this reason, these tanks are sprayed with a specially developed 3M coating that sets as a tough film which smooths out surface variations, resisting the impact of fast-flying rain and dust.

### See what adhesives can do for you . . .

If you would like to know more about this product, or any other adhesives, sealers, and coatings made by 3M for the aircraft industry, write today for your FREE copy of 3M's aircraft booklet. Address: 3M, Dept. 19, 411 Piquette Ave., Detroit 2, Michigan.



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## Moving mountains of merchandise and materials



Just at the touch of a finger, too! Throughout industry, battery-powered material handlers are helping to speed the movement of materials and lower unit handling costs. They work round-the-clock...lifting, hauling and tying. And many of these electric trucks are powered with dependable, long-life Exide-Ironclad Batteries.

*There are dependable Exide batteries for every storage battery need. They are used to power mine locomotives, trammers*

*and shuttle cars. Railroads use them for diesel-locomotive starting, car-*

*lighting, air-conditioning, signal and communication systems.*

# Exide

## BATTERIES

"Exide" Reg. Trade-mark U.S. Pat. Off.

Exide batteries are used by telephone, telegraph and cable companies... electric light and power utilities... radio and television stations... ocean, river and harbor vessels... municipal fire alarm and police telegraph systems... more than 250 different applications in all. And on millions of cars, trucks, tractors and buses, they daily prove that "When it's an Exide... you start."

**1888... DEPENDABLE BATTERIES FOR 65 YEARS... 1953**

**THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 2, Pa. • Exide Batteries of Canada, Limited, Toronto**

# WASHINGTON OUTLOOK

WASHINGTON  
BUREAU  
SEPT. 26, 1953



A federal retail sales tax is unlikely, even if Eisenhower asks for it. Democrats in Congress would vote almost solidly against any such scheme. And Republicans would split. Thus, odds are against enactment.

An across-the-board manufacturers excise tax has more chance. Eisenhower could recommend it as a reform. The present system, like Topsy, just grewed, with different rates on various goods and services. But it's no sure thing. The real aim would be more revenue from excises, which are sales taxes, too, paid by the consumers. The Democrats would try to make hay out of this.

Here's Eisenhower's dilemma: a balanced budget is a "must" with him—synonymous with sound government. Still, the voters expect some tax cuts from Eisenhower's Administration. And Eisenhower is committed to allow the excess profits tax and the Korea boost on individual incomes (10%, average) to expire Jan. 1. This loss of revenue would make a balanced budget in fiscal 1955, starting next July 1, just about impossible. And that's why the Administration is showing such interest in various sales taxes.

What's needed is \$5-billion to \$6-billion—that much to offset revenue losses and make possible a balanced budget in fiscal 1955.

The thinking is that it must come from a new tax. Politically, you can't offset the scheduled declines in taxes on corporate and individual incomes simply by increasing taxes on these same sources. And a sales tax of some sort is about the only avenue open.

The upshot may well be more deficits. Congress likes the idea of a balanced budget. But in the end, it may prefer continued deficits to a tax boost in a congressional election year.

Business forecasts, short and long range, made news in Washington this week. They came from both government and private sources.

They were on the optimistic side, generally. A "dip" or "adjustment" is taken for granted in the near future. But the consensus was that it won't be either severe or prolonged. Then will come a rise, with new highs showing in business by the late 1950s.

Bankers talked along this line, as they gathered here for the annual convention of the American Bankers Association:

Downs will be moderate as the national economy makes adjustments from the shortage-marked Korea boom to more normal business activity.

Industrial production will slip about 10% on average. Some lines will feel a hard squeeze. But over-all, business will be pretty good.

National income may slide about 5%. That will mean some loss in buying power, but price trimming will offset most if not all of it.

Credit will become easier to get and this will help stimulate buying of such things as homes, autos, appliances.

Here's how the bankers see the auto outlook: Production this year will hit about 6-million units. Next year, it will dip to around 5.5-million. But by 1958, output may rise to an annual rate of between 8-million and 9-million. Rising population is a big factor in figuring future auto demand.

The same line came from the congressional economic committee. The

# WASHINGTON OUTLOOK (Continued)

WASHINGTON  
BUREAU  
SEPT. 26, 1953

staff gave the committee members a briefing on what they see ahead.

The next year or two will bring adjustments, mostly downward, in prices and production. But they won't add up to depression.

A rise will follow, with business hitting new highs late in the 1950s as the growing population demands all sorts of goods and services.

As for government-made stimulants, if they should be needed short term to get us through the adjustment period, the committee staff puts tax cuts ahead of public works. It argues tax cuts work faster.

Plans for war, if war comes, take lots of time of Washington officials. Some of it is general, such as programs to rescue the big population centers. Other plans deal with specific industries—the war-making muscles.

What damage would an A-bomb and H-bomb attack do? You can only speculate on the extent. But a few things you should have on the top of your mind:

More than the 10 biggest cities would be hit. Our own A-bomb production tells us that an enemy would be "generous" in its attack. The old idea that A-bombs or H-bombs would only be used on the big centers of industry and population is out of date. The "D-bombs"—"disaster bombs"—now are in small packages. Any plane that flies can carry them. The objective of an attack would be to paralyze—a mass attack on, say, most cities of over 100,000.

Here's how defense officials see it: Russia has the bombs, A and H. If she should decide to use them, it would be a saturation attack—all out. The big centers would catch it hardest—Seattle, San Francisco, and Los Angeles in the West; Chicago, Detroit, Cleveland, and Pittsburgh in the Middle-East; Boston, New York, Philadelphia, Baltimore, and Washington in the East. In between, would be scores of communities of more than 100,000 persons.

Casualties are estimated at 50-million, for the first enemy raid. That's nearly one-third of our population. We would hit back, of course; the enemy would suffer proportionately. The big question officials kick around: hurt that badly, could we come back—and fight to win?

Oil for the east coast: The defense agencies will be talking with prospective pipeline companies about a line to assure the East of supplies in the event of war. A new "Big Inch" to empty at Newark, N. J., is in the cards. Officials favor it, as part of the future defense plans.

Want to clean a government building? Getting government out of business is an Eisenhower aim. In keeping with it, and under prodding by Congress, the General Services Administration is about to try an experiment. This week it will ask bids on cleaning two government buildings—Veterans Administration in New York and the big South Agriculture Building here—second to the Pentagon in floor space.

Revision of Taft-Hartley next year isn't likely. Eisenhower's promise to the AFL convention that he would recommend amendments hasn't changed anything. Plain fact is that supporters of the law in business and opponents in labor can't agree on what changes are needed. And neither can Eisenhower's advisers. That's why Durkin quit as Labor Secretary. The prospect is that Congress will take advantage of the disagreements to do nothing.

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More Efficient,  
Cheerful and Safer  
Working Conditions with...  
**Pittsburgh  
COLOR DYNAMICS®**

Functional use of  
colors lessens eye fatigue,  
improves productivity,  
boosts morale and  
reduces accident hazard  
in new \$3,000,000  
Warner & Swasey plant.

COLOR DYNAMICS throughout the entire new Warner & Swasey plant in New Philadelphia, Ohio, gives workers increased visibility, greater safety and a psychological incentive for stepping up their activity—all of which result in better and greater production.

- An excellent example of the plant environment which Pittsburgh COLOR DYNAMICS provides is the new \$3,000,000 plant of The Warner & Swasey Company recently opened in New Philadelphia, Ohio.
- In this new plant Warner & Swasey manufactures parts for turret lathes, automatic screw and tapping machines, textile machinery and grading equipment. The entire structure was painted according to COLOR DYNAMICS.
- The reasons for the choice of COLOR DYNAMICS are best expressed by Walter K. Bailey, vice-president in charge of manufacturing:
- "We chose to use color functionally in order to create an environment that would be pleasing, cheerful and, at the

same time, improve the productivity of our operators. We selected colors that would increase visibility without causing eye fatigue.

● "We also painted recreation and rest areas in colors that would provide a welcome change of pace and return the workers to their jobs feeling alert and refreshed.

● "Above all, we wanted to create a work place of which the entire community could be proud. How well we succeeded is best shown by the enthusiastic comments when we held 'open house' at the time of our opening. This was further confirmed by the flood of applications from men who wanted to work in these surroundings. From every standpoint, we believe COLOR DYNAMICS is an investment that will pay off for years to come."

**FREE—Color Engineering Study of Your Plant!**

● Why not test the practical value of COLOR DYNAMICS in your plant—on a machine or two or in a whole department? Send for our free book which explains how you can use this modern painting system simply and easily.

● Better still, call your nearest Pittsburgh Plate Glass Company branch and ask to have a representative give you a detailed color engineering study of your plant, or any part of it, without cost or obligation. Or mail coupon at right.

**Send For a Copy of This Book**

Pittsburgh Plate Glass Co., Paint Div.  
Department BW 83, Pittsburgh 22, Pa.

☐ Please send me a FREE copy of your booklet, "Color Dynamics."  
☐ Please have representative call for Color Dynamics Survey without obligation on our part.

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**PITTSBURGH PAINTS**  
PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Corp. 1953 Pittsburgh Plate Glass Co., Pittsburgh, Pa.



**Production of alumina**—the snow-white powder from which aluminum is made—has been greatly increased at our Baton Rouge plant.

Our increased supply of alumina is only part of our vast expansion. This year our many plants will turn out 25% of all the aluminum made in this country. This is twice as much as the whole industry produced before World War II.

We are proud to be the fastest growing major producer in an industry that is revolutionizing American manufacturing—and American living. Aluminum is taking the place of other materials in thousands and thousands of useful products—making these products better—and cheaper.

Because of aluminum, a brighter future lies ahead. We are continuing to expand—and to work with manufacturers to turn aluminum's unlimited opportunities into realities.

***Kaiser Aluminum***

**America's fastest growing major producer of aluminum**

# MARKETING



BAIT: Girl is being induced to visit a store by an old gimmick, repolished: . . .

## The Lure of the Giveaway

The girl in the picture is being given a token worth \$1. She can walk into any of 66 stores in Ossining, N. Y., hand the token to a salesman, and get a dollar's worth of merchandise free. In doing so, she automatically enters her name in a prize drawing to be held later on.

Presumably all this will make her happy. If she applies her dollar against a \$25 dress, presumably the salesman will derive enjoyment from the proceedings, too. The token and the chance at a prize will have done their work. Like thousands of other people throughout the U. S., the Ossining consumer will have been induced to consume by the lure of something for nothing.

• **Sales Bait**—The lottery (never called by that name) and similar contests to boost sales are old stories, of course. A check across the country indicates that numerically there are no more of them than usual. Yet you can expect to see more effort put into this particular kind of salesmanship as the fight to separate a consumer from his dollar gets hotter.

Right now, the signs are showing:

• This summer, for the first time in some 20 years, the Lucky Buck made its reappearance in the Hearst newspapers. Today at least 20 papers (not all Hearst) are clearing the newsstands by printing serial numbers of dollar bills, offering holders of these bills anywhere from \$25 to \$3,000 each.

• After years of disrepute, the old

suit club—in a revised version—is staging a comeback. It's the gimmick in which members deposit a specified sum a week toward payment on a suit, get the article free if they win the lucky number. At least one organization, known as the Pennsylvania Plan, reports that increasing numbers of retailers are going for its version of this type of operation.

• **American Stores** has a plan, still under wraps, for issuing calendars with coupons that will entitle holders to certain benefits—including, periodically, a draw.

• **The Law**—Perhaps more important than these instances are signs of some new thinking about the legality of these contests. The lottery operator runs a lot of legal hazards. Federal law forbids lotteries; and the states have bans of varying kinds on them. Many communities have made their own special laws on the subject.

Traditionally, federal law has held that three elements must be present to constitute a lottery: There must be (1) a prize, chosen (2) by chance, for which the winner has paid (3) some "consideration." Without all three elements, there's no lottery.

In many cases, the key to whether a contest is a lottery depends on the factor of consideration. The Federal Communications Commission banned radio and television giveaway programs of the Stop the Music type on the grounds that they were lotteries. The major

networks fought the ban in the courts, won a decision in a federal district court in New York. Giveaway shows aren't lotteries, the court said, if the only consideration the winner gives is attention. FCC has taken the battle to the Supreme Court. (But the Supreme Court may not hear it; the networks have another suit pending in Chicago.)

FCC argues that the view of the New York court isn't realistic, that the audience and radio station are "buying or bribing an audience." The audience listens, buys the advertiser's product; the advertiser makes more sales and so can afford to pay higher ad rates to the radio station—which bases its rates on audience appeal and circulation ratings. This, says FCC, is enough "consideration."

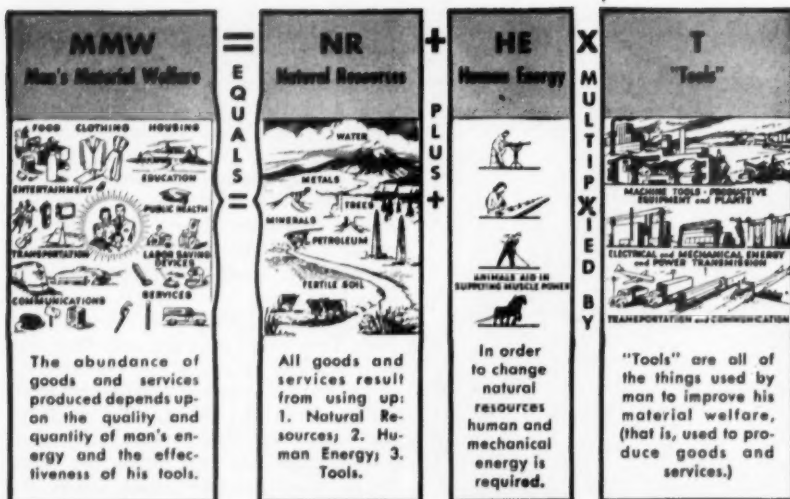
At the same time, the New York court upheld FCC's right to ban programs that are lotteries. So, even if the Supreme Court affirms the lower court ruling in this case, there will still be plenty to wrangle about.

• **Other Rules**—Last month, partly as a result of the New York ruling, the Post Office Dept. let down the bars on what forms consideration may take. From now on, it holds, "Where the sole requirement for participation is registration at a store and, in addition, attendance at a drawing or a return to the store to learn if one's name was drawn; visiting a number of stores or a number of different locations in a store to ascertain whether or not one's name or number has been posted; witnessing a demonstration of an appliance or taking a demonstration ride in an automobile, etc. it would be ruled no consideration is present." In the past, contests have been ruled out because these requirements were figured to be sufficient consideration.

The Bureau of Internal Revenue about a year ago revised its earlier ruling that suit clubs were lotteries. They aren't, it now holds, if club members get merchandise equivalent in value to the money they pay into the kitty.

The Federal Trade Commission, too, can throw a wrench in the works—if it thinks it sees an unfair trade practice. Because FTC is limited to interstate commerce, its strongest attack has been against the manufacturer or dealer of punchboards, push cards, and similar devices that could be used in running lotteries. There are now three cases on the Supreme Court docket testing FTC's authority to issue orders against interstate sales of such devices "which are to be used or may be used by third persons in intrastate sales promotion schemes." The lower courts have





## Wherein Lies America's Greatness?

Unquestionably, the United States has the highest living standards and greatest industrial productivity in the world. A stranger on this planet might thereby suspect that we have the greatest population, resources and inventiveness. And, indeed, we have our share of all three.

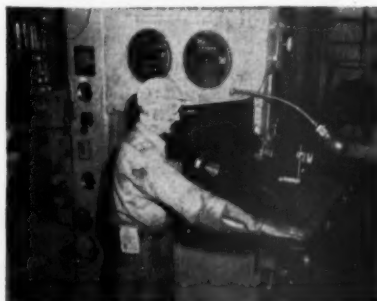
But China and Russia have more population and vast untouched resources.

Inventiveness? Marconi, an Italian, invented the wireless but we have far more radio sets than any other country. The English pioneered television but we put it in millions of homes. The Diesel engine came from Germany, but we put it to widespread use.

Secret to our high living standard and abundant accumulation of goods lies in our greater use of tools. Man's material welfare is a direct reflection of his use of tools to multiply his own energy.

America's great use of tools is a result of its economic system of free, competitive enterprise. To survive and prosper in a competitive economy a manufacturer must constantly strive to increase his efficiency and productivity by use of better tools. To buy these tools he needs money. Our system provides for that, too. It provides the possibility of financial gain to the man who saves and invests part of his earnings and thereby supplies funds for people who have none.

Every idea for changing our system such as Government ownership, profit limitations and others has been tried in some other country at one time or another. In every case these other systems have not only failed to provide the tools and productivity for the promised standard of living, but also frequently have taken away the people's personal freedom.



**THE DoALL BAND MACHINE** is a real production booster for producers of special machinery, tools, wrenches, etc.

One of the most useful production tools ever put to man's use is the contour-cutting band machine, newest member of the machine tool family. These modern machines are a far cry from the ordinary metal cutting band saw that simply cuts off pieces in a straight line. They will cut any internal or external shape. Eighteen different types of saw bands and other band tools developed for their use permit sawing, slicing, filing, grinding, honing and polishing.

Any known material can be cut, from asbestos to zinc. Power-driven feed, variable speeds up to 15,000 blade feet per minute, tilting tables, automatic reversing and many other features make them applicable to thousands of jobs. Typical uses: precision shape cutting; fast removal of large sections of metal prior to finish milling or other machining; slitting and slotting; trimming castings; punch, die, tool and gage making.

**DoALL**

FREE ON REQUEST for your bulletin boards: "Why Living Improves in America", a 17" x 22" wall chart, without advertising matter.

**THE DoALL COMPANY**  
254 N. Laurel Ave., Des Plaines, Ill.

**"... this plan was developed when suit clubs got into disrepute ..."**

**GIVEAWAY** starts on p. 41

upheld FTC's authority to do this.

• **Contests**—Whether all this activity points to an easing of the bans, the "contests" continue. You can divide them roughly into three groups:

First is the out-and-out lottery—the bingo type—which is illegal practically anywhere. But the law often winks at it when it's used as a money raiser for charitable or educational projects.

Then there are the phoney contests—where a \$50 "prize" turns out to be good only if applied to a specific product. More than likely the dealer who works this one has already upped the price of his article to offset his \$50 loss on it.

This gag is getting harder to work. Both FTC and the Better Business Bureaus have an eagle eye on it, and are quick to swoop down on it if it smacks of deceptive trade practices. As a result of their combined efforts, some cities, such as Detroit, report they are practically lotteryless towns.

Finally there's the contest that stays outside the legal definition of a lottery, that appears to be a bona fide means of building sales.

• **Pennsylvania Plan**—Among these a new wrinkle has been developed that so far has warded off the lottery taint. This is the so-called Pennsylvania Plan, developed in New York City by William Weiner, former president of Duralith Corp., plastics maker. This plan, says Weiner, was developed when suit clubs got into disrepute because they were often used to sell shoddy merchandise.

The Pennsylvania Plan has two prongs. One is a weekly drawing. To be eligible for it, a customer simply registers in the member store for a card, which must be punched each week. Along with it, but kept distinctly separate from it, is a budget plan that lets the registrant deposit a dollar or more a week in his account, make purchases against it after 10 weeks. The Post Office Dept. and the Treasury Dept. so far have found no quarrel with the plan, provided the two elements are kept separate.

This is an unusual device in that it's a licensed plan. The Weiner organization collects \$150 a year from the licensed stores. Some 250 stores have signed up. A trick method of drawing, in which a three-digit number is pulled by drawing three times from a bowl of nine numbered balls, has been copyrighted. Some dealers, Weiner reports, have as many as 2,000 or 3,000

IF YOU'RE EXPANDING...

## Consider Greater Minneapolis Serving 6,000,000 People



It's fun to live and work in Minnesota. 10,000 lakes (22 within Minneapolis) mean unmatched fishing and swimming. Sightseeing is endless. Right now, hunting season is at hand—and after that, our wonderful winter sports.

## Minnesota Taconite...new horizon for Upper Midwest economy!

Big things are happening today in the Upper Midwest! And none is more staggering to the imagination than northern Minnesota's lusty young taconite industry, in which iron is extracted from low grade ore-bearing rock... Taconite rock is adding another century of production to Minnesota's world-famed iron ranges, source of two-thirds of our nation's ore. Mining companies, already busily engaged in processing taconite, plan to invest a billion dollars in its future.

Taconite, however, is but one phase of the "new look" in this area. North Da-

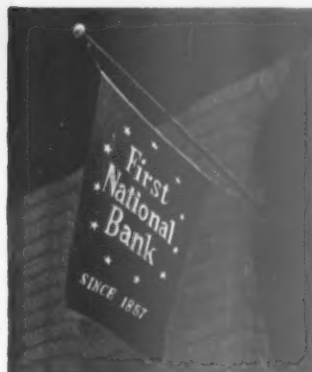
kota's petroleum and lignite fields, the Missouri River's tremendous water power potential, and Montana's copper and other metals—all mean new jobs, new wealth in the midst of an agricultural and industrial economy that has been notable for its soundness through the years.

Gateway to all this is Minneapolis, the manufacturing, distribution and financial hub of the Upper Midwest... If you're expanding, looking for markets with a future—look well to Greater Minneapolis and its trade area of six million people!

FOR FURTHER DETAILS... Write: First National Bank, Business Development Dept., Fifth at Marquette, Minneapolis 2, Minn., or Minneapolis Chamber of Commerce, Department of Industrial Development, 1750 Hennepin Ave., Minneapolis 3, Minn.



Highly skilled manpower... Coming to the fore generation after generation, this reservoir of desirable labor means much to industry. Over 100 trade, business and professional schools are located here.



Here in Minneapolis or anywhere in the Upper Midwest, we stand ready to serve you in every way a good bank can... First National of Minneapolis maintains direct connections with over 1,000 correspondent banks... and we are one of 74 banks (total deposits \$1,197,194,845) in Minnesota, the Dakotas and Montana which are affiliated with First Bank Stock Corporation.

# FIRST NATIONAL BANK

OF MINNEAPOLIS

RESOURCES OVER  
\$391,000,000

"Financial partner to Upper Midwest progress"

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION



get  
**DOUBLE-  
BARRELED  
SAVINGS**  
with  
**NIBROC®**  
**TOWELS and  
TOILET TISSUE**



You can cut washroom costs by ordering Nibroc Towels and Toilet Tissue together, thereby getting quantity discount. Absorbent, soft and strong, Nibroc products are the best washroom good-will-builders you can buy. No wonder they are first choice among industrial and institutional purchasing agents everywhere. White or natural; towels multifold or singlefold.



**SAVE \$\$\$—ORDER BOTH AT ONCE**

A new combination of 100% pure cellulose fibres makes Nibroc Toilet Tissues softer, stronger.

For name of nearest distributor and towel and tissue samples, write Dept. NE-92, Boston.

**BROWN**



COMPANY, Berlin, New Hampshire

CORPORATION, La Tuque, Quebec

General Sales Offices:

150 Causeway Street, Boston 14, Mass.  
Dominion Square Bldg., Montreal, Quebec

accounts. Since the registrants must come to the store to have their cards punched each week, it's a traffic builder.

• **Other Plans**—Over the country there are more individual schemes than you can shake a stick at. There's the plan of Ed James Buick Co., in Los Angeles, for example. The company has just wound up a three-and-a-half-month contest, open to everyone who bought a new Buick there. The winner got his Buick free. The dealer steered clear of the lottery taint by requiring every entrant to complete the statement, "I bought my new Buick at Jamestown because . . ." That got it out of the "chance" class.

Another type is the contest run by some 55 of the 1,000 Associated Retail Gasoline Dealers of Allegheny County (the Pittsburgh area). Any motorist who buys five gallons of gas at a participating station is offered a chance on one of 15 prizes each month. What takes the curse off this one is that—actually—you can get a chance simply by walking into the station; you don't have to buy gas to be eligible. This was started to knock out a local price war—and costs the stations about 1/20th of what price-cutting would cost them, the association says.

To build circulation, the San Francisco Chronicle this summer staged two elaborate buried treasure hunts—the treasure being a bronze medallion that could be exchanged for \$1,000. Each day the Chronicle published clues as to the treasure's whereabouts.

• **Fine Line**—The line that separates the legal from the extralegal can be a fine one. Thus the New York Daily Mirror's Lucky Buck and the Daily News' Bonanza Bill contests squeak out of the lottery class by stating you don't have to buy a paper to win a prize—you can go to the offices and read the lucky numbers for free. That eliminates the element of consideration. (Dollar bills are picked and circulated by the papers' accounting departments each day.)

In the puzzle contest, the element of skill is evoked. If you're not smart enough to guess, you can't win a prize. Hence it can be argued that there's no chance involved.

But this approach, too, has its perils. Better Business Bureaus eye with suspicion long-drawn-out contests that begin with simple puzzles, get harder and harder. The contestant must have some idea of what he is in for from the start to avoid the "unfair practice" tab, BBB officials say.

• **Returns**—Just how much money such sales boosters bring in is anyone's guess. The Mirror, for example, will say only that Lucky Bucks staved off the usual summer sales slump. The News claimed a circulation growth of 100,000 two weeks after its Bonanza Bills contest started.

The concern that is probably happiest about these contests is the Long Island newspaper Newsday. It has taken to printing the lucky numbers of both the Mirror and News dollars—a program it calls "very, very effective."



## Stop-Traffic Advertising

In Troy, N. Y., this used car dealer faked this wreck as a display to pull in customers. He ran a picture of the wreck in the

Troy Times Record as a classified ad, with the message: "Be safe. Make your next used car a Cartwright A-1 used car."



*Condor V-Belts—More use per dollar*

*Condor V-Belts . . . more use per dollar*

*Condor V . . . dollar*

*Condor . . . r dollar*

*Condor V-Belts . . . per dollar*

**SMOOTHEST RUNNING V-BELTS MADE . . .**

The result—long life and low V-belt drive costs. Correct engineering makes the difference. Sidewalls are *straight* for more grip, less slip, longer life. The pulling section is micro-positioned. Every Condor V-Belt is correctly balanced and destretched during manufacture. This, too, means longer life. Also in special oil-, heat-, static-resisting types . . . Get the engineering facts. Ask the R/M Distributor for Bulletin 6868 . . . He'll show how you also can get **MORE USE PER DOLLAR** with R/M hose, transmission and conveyor belts.



MANHATTAN RUBBER DIVISION — PASSAIC, NEW JERSEY

**RAYBESTOS-MANHATTAN, INC.**



Flat Belts



V-Belts



Conveyor Belts



Hose



Roll Covering



Tank Lining



Abrasive Wheels

Other R/M products include: Industrial Rubber • Fan Belts • Radiator Hose • Brake Linings • Brake Blocks • Clutch Facings  
Asbestos Textiles • Teflon Products • Packings • Sintered Metal Parts • Bowling Balls

MR 902



For sales—promotion—  
purchasing—collections and  
every other vital business job—  
you'll get better results faster  
when you use Telegrams.  
Telegrams are easy to send—  
easy to understand—to act on  
—handy to file for reference.

For any business purpose...

**A TELEGRAM  
DOES THE JOB BETTER**



*Always On Top!*  
Nothing else  
gets action  
like a Telegram

**WESTERN UNION**

## Getting Out of a Trap

Butler Bros. thinks it has found the answer to the troubles of a general line wholesaler. It is building up its chain of small, independent, variety stores.

Stockholders of H. A. McElroy Co. gave the all-clear last week to the sale of the 15-store McElroy variety chain in Kentucky and Tennessee to Butler Bros., venerable wholesale and retail house. Butler officials immediately turned around and said they would sell all but one of the stores to private owners, who would operate them independently, but under the umbrella of a Ben Franklin store franchise.

The deal looks on the face of it like a mere routine shift of ownership. Actually it represents much more than that to Butler. The Ben Franklin store is the key that Butler Bros. hopes will unlock this old-line wholesaler from its difficulties.

• **Relationship**—Typically, the Ben Franklin is a small variety store; it averages about \$75,000 worth of business a year. It's usually in a small town. Each is run by its owner, but all get together under the wing of Mother Butler.

To use the Ben Franklin name, the store owner pays a franchise fee of \$325 to \$750 a year to Butler Bros. It is expected to do much of its buying from Butler—and gets a rebate that varies with the amount purchased. In addition, the company offers the small store all kinds of services.

There's nothing new to this setup; Butler Bros. has franchised Ben Franklin stores for some years. What is new is the importance this part of its operation is now playing in Butler's fight for survival.

• **Tough**—It is a fight. Changing times have made life tough for the old-line wholesaler of general merchandise. One of his big customers, the small-town general store, is a dying breed. The rise of the giant national variety and department store chains and mail-order houses has made the pickings thinner and thinner for the company that supplied the small retailer.

Butler Bros., 76-year-old Chicago concern, is one of the few survivors that until recently could qualify as a national, general-merchandise wholesaler. It has survived partly by bucking the trend, partly by shifting its operation to fit the changed patterns of marketing. In laying its bets on the independent retailer, it's going counter to the trend toward chain store setups. But in moving from a wholesale company that sold all kinds of goods to all kinds of merchants, and concentrating instead on variety-store wholesaling, it's

obeying the evolutionary laws of marketing.

• **Downward Path**—In narrowing down its wholesale operation, Butler Bros. is just doing what comes naturally. It was in 1877 that a Boston merchant, Edward B. Butler, started the company off on the road of variety goods wholesaling, to which it stuck until the late 1920s. Then it bought a general wholesale house in Baltimore, started to wholesale soft lines, and bought up a chain of retail variety outlets. In the 1930s it added appliances, furniture, and rugs to its wholesale lines.

But the implacable trend worked against it. The company struggled along until World War II helped boost it out of its doldrums. But the boost didn't last. In 1947, the company's wholesaling operation lost \$5-million, mainly on a heavy inventory of inferior, wartime-quality goods. And it kept on losing money. Finally, in 1949, with a deficit looming, the directors called in Bert R. Prall, one-time Montgomery Ward & Co., Inc. executive, to become president, and took a long look at their whole picture.

• **Experiment**—The look convinced the company that there was no money in the general wholesale business. One part of its activity, though, was still showing a profit. That was the business with the Ben Franklin stores. Maybe, Butler officials thought, the answer lay in that direction.

To find out, they decided to use the Baltimore wholesale house—an especially weak sister—as a guinea pig. They would chop off its general wholesaling activities, make it a supplier, buyer, warehouse, and service company for its variety store customers.

• **Profit**—The experiment worked. In January, 1950, the first month the specialized operation was fully effective, the Baltimore house began to show a profit. By the year's end, wholesale sales volume was down from \$14-million to \$8-million—but the 1949 loss of \$543,000 had become a \$618,500 profit.

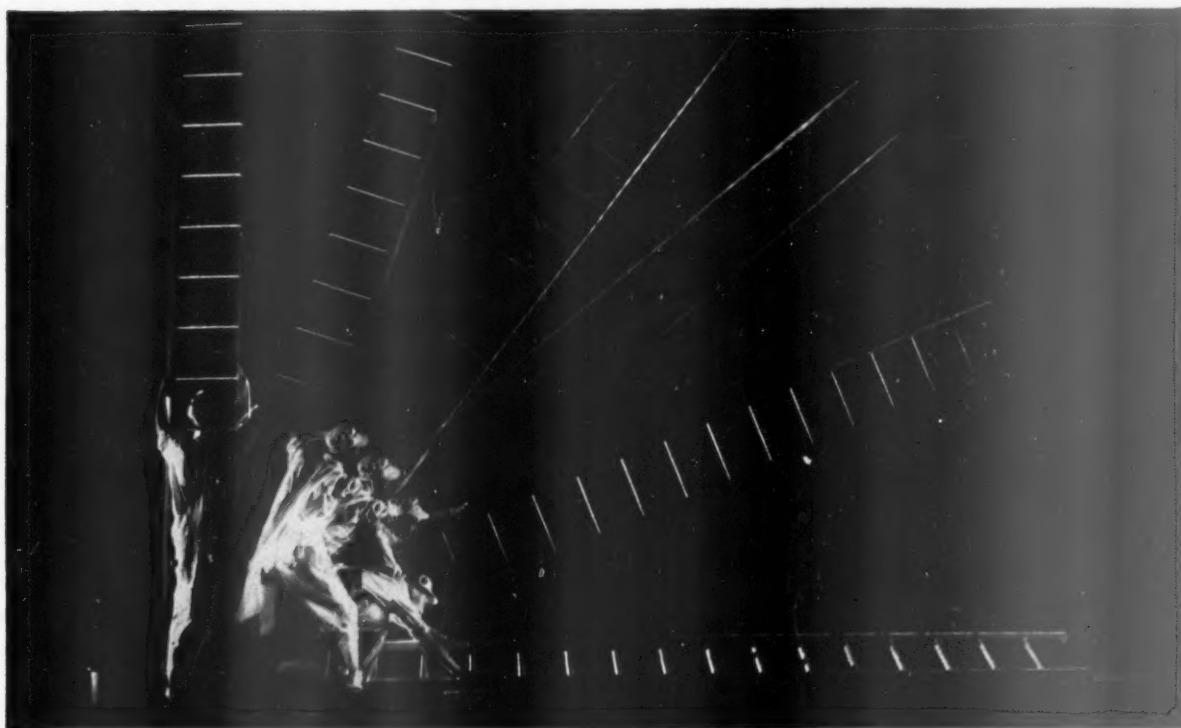
With this test safely passed, the company tackled its other wholesale houses the same way: first in Dallas, then in St. Louis and Chicago, and finally, this fall, in Minneapolis.

In all, the scoreboard for the three years looks like this: Butler Bros. customers are down from 25,000 to less than 6,000. Stock items are off from 30,000 to 12,000. The company



## MAGNESIUM HELPS CUT FIXED COSTS BY ELIMINATING NEEDLESS WEIGHT

Ladders of lightweight MAGNESIUM conserve manpower  
yet provide strength with safety and durability



Weight costs money, eats up profit. Industry is finding that lightening factory tools and equipment is one answer to high overhead. Magnesium ladders are a good example.

Magnesium is the lightest structural metal in the world. A thirty-foot extension ladder . . . "Made with Magnesium" . . . weighs only 43 pounds. Yet this feather-light ladder is capable of loads exceeding 1000 pounds. Even the longest length ladders, extending to as much as 50 feet, can be readily handled by one man! As you can see, such labor savings can be an important factor in cutting costs.

Ladders are only one example of a growing list of port-

able tools and equipment now being made with Magnesium. Dock boards, chain saws, gravity conveyors, hand trucks and many other items have had important pounds cut from their weight by use of Magnesium.

If you buy equipment that must be moved, make certain it is made with Magnesium. You'll find not only light weight, but strength and durability. If you are a manufacturer looking for a way to give your product new sales appeal, consider Magnesium. This superb, modern metal offers many advantages: high strength/weight ratio, exceptional machinability, and in many instances, amazing economy. Magnesium Department, THE DOW CHEMICAL COMPANY, Midland, Michigan.

*you can depend on DOW MAGNESIUM*





# Your First Choice is

Let EDISON TELEVOICE speed the work flow of *your* entire office! It's the simplest dictation system yet devised—convenient, direct, fast and lowest of all in cost! With a handy TELEVOICE phone at every logical desk, *everyone* enjoys instant, constant "work dispatch service." One typist can handle the dictation traffic of up to 20 dictators! And they all like Edison's easier-to-use push-button control, Edison's twice-as-accurate indexing, Edison's specially-designed heavy-duty recorder and High Definition recording on Edison Diamond Discs. TELEVOICE is preferable. That's why TELEVOICE is *preferred*—3 to 1!

## Look at These Amazing Savings!

Yearly dictation time of executives... CUT 70%

Dictation-to-signature time ..... CUT 75%

Cost of dictation service per day... CUT 47%

## EDISON TELEVOICE



A DICTATING PHONE NETWORK TO SPEED OFFICE WORK FLOW

# TELEVOICE... BY MORE THAN 3 TO 1 !

## EDISON'S *NEW* FASHIONED PHONE DICTATION SYSTEM SWEEPS NATIONAL PREFERENCE POLL!

"First choice is TELEVOICE!" So say the nation's biggest and busiest offices in a recent, independent, coast-to-coast survey! They *proved* their preference by purchasing it—3 to 1 over any other! Edison was *years ahead* in introducing phone network dictation—and is *still* years ahead in design, simplicity, accuracy and experience. Only Edison has a dozen patented, can't-be-copied features. Only Edison has years of experience in prescribing the just-right system to handle the office work load. And only Edison makes TELEVOICE, the preferred system, used by companies like ESSO, GENERAL ELECTRIC, U.S. RUBBER, OTIS ELEVATOR, PROCTER & GAMBLE, ILLINOIS CENTRAL, BORDEN'S, and *thousands* of others. EDISON TELEVOICE will serve and save for you if you have three dictators or more. Investigate!



Thomas A Edison  
INCORPORATED

GET THIS NEW FACT-PACKED 16-page BOOK that tells the dollar-saving TELEVOICE story! Learn the *5 big reasons* why more than 1000 new users a month are turning to TELEVOICE! Send handy coupon today—don't delay—just clip to your letterhead and mail it! Or phone nearest EDISON VOICEWRITER office—no obligation.

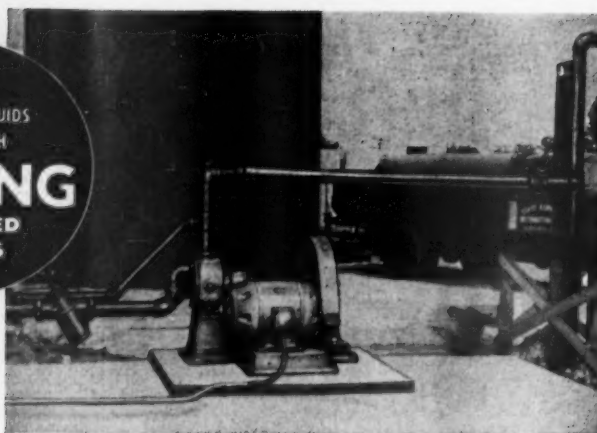


EDISON (Ediphone Division)  
89 Lakeside Avenue, West Orange, N. J.

Please send me "5 BIG BENEFITS OF EDISON TELEVOICE"

NAME \_\_\_\_\_ TITLE \_\_\_\_\_  
COMPANY \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

MOVE  
VISCOUS LIQUIDS  
FAST WITH  
**VIKING**  
JACKETED  
PUMPS



Two types of asphalt (quick-set and slow-set) are being pumped with this model Q137 Viking unit. Delivery is from tank cars to storage and from storage to truck tanks at the State Asphalt Distributing Co.'s Milwaukee plant. Plant built by Stone Construction Company.

• Like the State Asphalt Distributing Company, you too can quickly unload tank cars, fill truck tanks, transfer viscous materials in processing applications with Viking Jacketed Pumps. They report highly satisfactory operations in every way.

Get the complete facts on the all-jacketed Viking pump line. Sizes from 90 to 450 gpm. Mounting arrangements to suit. For additional information ask for free bulletin series 901 today.

**VIKING PUMP COMPANY**  
CEDAR FALLS, IOWA



THE ORIGINAL "GEAR-WITHIN-A-GEAR" ROTARY PUMP

**GERLINGER**  
**DOUBLES**  
Handling  
Capacity!

**WALTON LUMBER CO.**  
MEDAN, NORTH CAROLINA

CASE HISTORY No. 222  
FROM OUR FILES

Manufacturers of air-dried poplar lumber and processors of other hardwoods, Walton Lumber Company has a plant capacity of 100M feet weekly. The GERLINGER handles 100% of this lumber unloading incoming trucks, placing lumber on grading chain, carrying packaged lumber from sorter to storage yards, stacking and loading out dry lumber. Formerly, all handling and loading was done by hand at a rate of about 5M feet per man per week. Capacity has been doubled to 10M feet per man per week with the GERLINGER Lift Truck.

Walton Lumber Company, typical of many lumber operations where handling capacity has been greatly increased with the use of GERLINGER Lift Trucks, says these trucks—tailor-made to the job—bring handling costs way down and raise profits. GERLINGER, the most ruggedly built lift truck on the market, will out-perform on any heavy-duty material handling job you have, too!

There's a Gerlinger for your specific industry described in our new brochure. Write for your free copy now



**GERLINGER**  
CARRIER CO.

**GERLINGER CARRIER CO.**  
DALLAS, OREGON

C-259

eliminated 1.4-million sq. ft. of floor space, cut out more than 250 field men, halved its advertising bill, cut house payrolls from 3,300 to less than 1,400, headquarters staff by 57%.

• **Answer**—Prall and C. D. Southard, vice-president in charge of the franchise division, are sure the franchise store operation is a sound answer—for Butler Bros. and for the independent store owners. Store sales, they say, are growing steadily. And while the Butler wholesale division sales have shrunk from \$105-million in 1948 to \$71-million last year, its operating profits before taxes have run over \$3-million each year since 1949.

• **Independents**—Butler Bros. is convinced there's a place for the independent, small variety store—provided it has the kind of props an organization such as Butler can give it. Dept. of Commerce figures strengthen their hunch that there's a future for the independent in this field. In 1935, independents had 9.23% of the nation's variety sales; in 1948, they had 17.14%. And Butler is expanding the franchised variety store steadily. In 1949, it had 1,367 Ben Franklin stores; this year there are 2,093. Goal is for 3,000 or more. On the other hand, another group of franchised stores, operating under the name Federated, is being dropped. These were dry goods stores.

• **Retail End**—In other respects, too, Butler is building up the retail end of its business. It owns a chain of about 120 larger variety stores, known as Scott Variety Stores, usually located in larger cities. The Scott stores, Butler officials say, earn a profit each year.

One last iron in Butler's retail fire is the department store business. For some years it has owned a chain of small retail department stores. In 1951 and 1952 it opened eight new, bigger ones under the Butler Bros. name. These are complete department stores in the middle-price range. All are in new and growing localities—six on the West Coast and two in Ohio.

Branching out this way has cost a lot of money. The new department stores aren't yet showing a profit. That fact goes far to explain the low profit figure of the whole Butler enterprise for the first six months of 1952—when net income was only \$3,940. Prall and his fellow executives believe, though, that aggressive promotion will turn the new company-owned stores into money makers.

• **Jumping Up**—So far this year, their faith in the road Butler Bros. has taken looks to be justified. Total net sales for the first six months came to \$55.4-million against \$50.2-million in the first half of 1952. And net income, too, showed a big jump over 1952's first half—to \$147,075.



# Basic Needs for Manufacturing Success



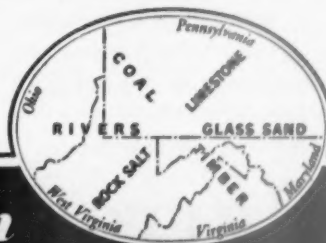
The area served by the West Penn Electric System has what is needed to make almost everything. Many an industry's requirements are ideally met at several points in the 29,000 square miles of territory. Newcomers have a wide choice of locations where virtually everything they use is right in their own backyards.

The combined list of natural and man-made advantages in West Penn Electric's service area reads like a "What's What" of the needs of American industry: abundant supplies of fresh water; coal, limestone and other natural resources; a great variety of semi-finished materials; excellent transportation; suitable sites with room to expand; easy access to the nation's best markets; and ample electric power.

Less tangible, but equally important to successful manufacturing, is another asset which management finds in the area. It is the friendly pride which the people of its pleasant, small towns take in their industries and their jobs—they like to work where they live, enjoying the area's well-distributed recreational and cultural opportunities.

## HELP ON PLANT SITE PROBLEMS

Our Area Development experts will be glad to help you on any plant location problem you may face. Ask for our "check list" which provides a simple way of defining your needs. Your inquiry will be treated in confidence. Write or phone Area Development Department of The West Penn Electric Company, Room 906, 50 Broad Street, New York 4, N. Y. (Telephone—Whitehall 4-3740).



## West Penn Electric System

Monongahela Power Company

The Potomac Edison Company

West Penn Power Company

For greatest efficiency in production calculating...

profit by the experience of  
24 leading companies  
who have purchased

**40,003**  
**Burroughs Calculators**

The fact that so many Burroughs Calculators have been purchased by just the 24 largest users carries special significance to every business. It is convincing evidence that Burroughs Calculators provide the speed, accuracy, ease of operation, and dependability so necessary in the efficient handling of figure work.

The Burroughs gives you the greater speed and simplicity of an electric key-driven calculator, *plus* the Memo-Register—an extra “memory” register that eliminates the need for recapping. You go straight through to the final answer, in one handling of the figures.

Whether your work requires one calculator or hundreds, you can enjoy



the time- and money-saving advantages that Burroughs Calculators give many of America's largest corporations. A representative will be glad to demonstrate the model best suited to your needs. Why not look him up today? The Burroughs office near you is listed in the yellow pages of your telephone book. Burroughs Corporation, Detroit 32, Michigan.

Wherever there's business there's

**Burroughs**



## “Free” Revival

FTC eases ad ban ... TV grid fare ... Henderson rides a bike ... Post Office aids direct mail.

The legal question involved in the use of the word “free” in advertising took a new bounce last week. The Federal Trade Commission ruled that a businessman may give away items without charge to buyers of other merchandise and call the gift “free” as long as:

- All conditions on keeping the gift are set forth in the advertisement.
- In requiring other purchases, the businessman doesn't increase usual prices, reduce quantity or quality.

Five years ago the FTC ruled it was unfair and deceptive advertising for the Book-of-the-Month Club, Inc., to use the word “free” in describing gift books if other merchandise had to be bought to get them. However, FTC's latest ruling was made in dismissing charges against another book club, Walter J. Black Corp., which runs the Classics Club and the Detective Book Club. Book-of-the-Month Club recently petitioned the U.S. Supreme Court for a reversal of lower court decisions upholding the original FTC ruling (BW—Sep. 5'53,p57). (Both Book-of-the-Month Club and the Literary Guild were allowed to present arguments before the FTC in the Black hearing.)

This week, counsel for Book-of-the-Month received notice that the Supreme Court has granted to the U.S. Solicitor General an extension of time (to late October) to file an answering brief to the club's petition. Probable reasons for the extension: (1) The new FTC ruling; (2) to give Book-of-the-Month counsel a chance to negotiate directly with FTC, perhaps to gain removal of the five-year-old order against the club.

## Football TV

The Old Blue who prefers his football via television to transporting wife, blankets, pennant, thermos, et al., to a chilled stadium will find the selection of games—especially professional—slightly improved this fall. Here's what will be on the networks:

On 10 Saturday afternoons, plus Thanksgiving Day, National Broadcasting Co. will telecast single college games to a hookup of 85 stations. On two additional Saturdays, parts of four games will be shown. General Motors Corp. is footing the bill for the series.

Du Mont will telecast 48 (perhaps 50) professional games on Saturday nights and Sunday afternoons. All 12

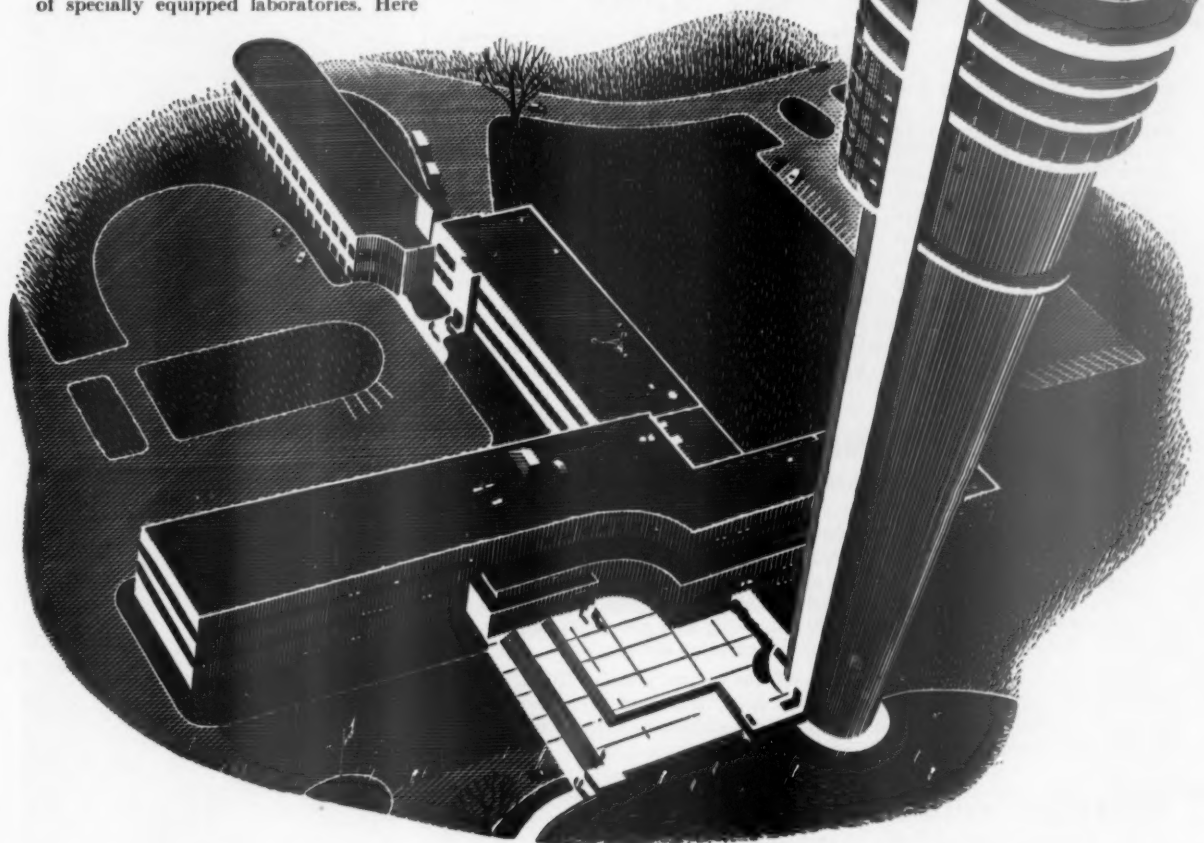
# YOU CAN SEE TOMORROW FROM THE TOP OF THIS TOWER

## New Electronic Wonders Are Being Developed at Federal Telecommunication Laboratories, a Division of IT&T

**T**HIS unique electronic research tower at Nutley, N. J. was designed to explore the mysterious realm of microwaves—those extremely short radio waves with such great future promise. Built into this 300-foot functional structure of steel and aluminum is a complex system of equipment and antennas . . . to advance experiments in the transmission of sight and sound by microwaves . . . to attain new highs in sensitivity in the reception of "line of sight" signals.

At the top of this tower are five stories of specially equipped laboratories. Here

teams of IT&T scientists think and work in terms of tomorrow. Already they have made important contributions in several fields of telecommunication . . . in Pulse Time Modulation for transmitting multiple messages simultaneously on the same frequency . . . in mobile radio . . . in television . . . in new types of radar and improved devices for safe air navigation. And they are pointing the way to the possibility of a world-wide network of telephone, telegraph and television communication by microwave relay.



**IT&T COMMUNICATIONS**—IT&T companies operate the largest American-owned system of international communications, telephone networks in many countries, approximately 47,000 nautical miles of submarine cable, more than 7,000 statute miles of landlines, and some 200 radiotelephone and radiotelegraph circuits.

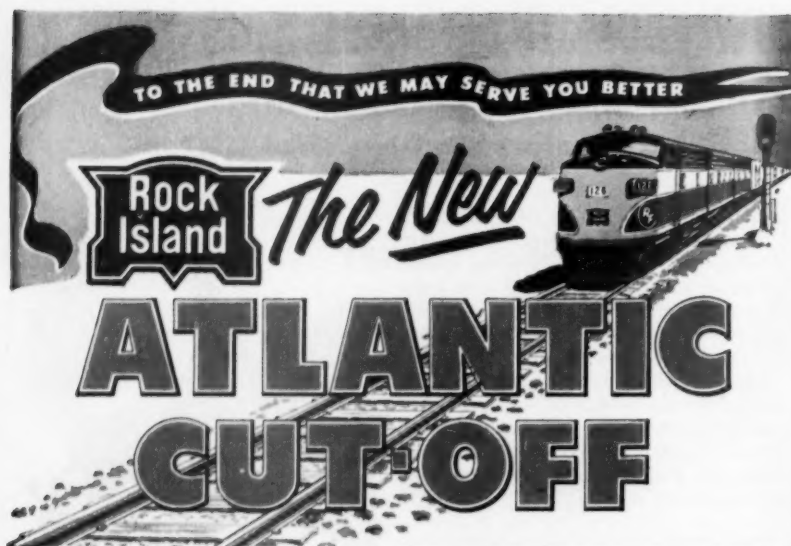
**IT&T DEVELOPMENT AND MANUFACTURING**—IT&T maintains central laboratory companies in the United States, England, and France, in addition to the many specialized laboratories maintained by IT&T's 32 manufacturing companies in 19 countries. These IT&T facilities have proved their value to the free world in peace and war.

# IT&T

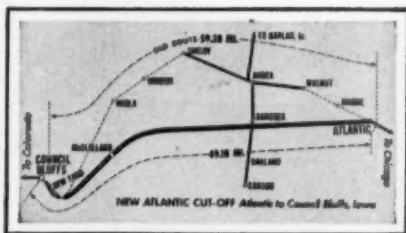


INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION, 67 Broad Street, New York 4, N. Y.





ROCK ISLAND proudly announces the completion of another great engineering triumph—the ATLANTIC (Iowa) CUT-OFF. This multi-million dollar line relocation—35 miles of new railway between Atlantic and Council Bluffs—marks one more dramatic achievement in the long list of ROCK ISLAND'S historic improvements. The elimination of 10.2 time-consuming miles, of 1629 degrees of curvature, and of 127 feet of rise and fall, all accomplished by this new segment on the Chicago-Colorado route, insure the ultimate in smooth, safe, efficient transportation.



### An 1857 Recommendation Becomes a 1953 Reality!

● Almost 100 years ago General Grenville M. Dodge recommended the construction of the original line over what is now the new right-of-way. But in 1857 the cost of man-operated shovels for cuts and fills was prohibitive. So it was not until nearly a century later that the recommendation was acted upon.

Today, over the new Atlantic Cut-off speed the popular ROCKY MOUNTAIN ROCKET and CORN BELT ROCKET, also the diesel-powered ROCKET FREIGHTS. Their sole purpose is to provide a service entirely to the liking of travelers and shippers.

### FOUR MAJOR PROJECTS which Mean Improved Service via the Chicago, Council Bluffs, Omaha and Denver Gateways



The new Atlantic-Council Bluffs relocation—reducing miles, curves and hills.



The East Yard at Council Bluffs—faster terminal car handling.



The Denver Cut-off—saves 7 to 13 hours per car.



Time-saving, automatically-controlled classification yard, Silvis, Ill.

**ROCK ISLAND LINES** *A Service that never ceases...  
A Story that never ends*  
*The Road of Planned Progress*

teams in the two big leagues will be on at one time or another. Westinghouse Electric Corp. will sponsor 19 of the games, which will be on a national net of 87 stations. The rest of the games will be on regional hookups—as many as five at one time—and will be sponsored on a share basis by several firms.

American Broadcasting Co. will show films on Sunday night of the previous day's Notre Dame game, which will also be shown Saturday on Theater TV (BW-Jul.18'53,p76). And on Sunday afternoons ABC will show the home games of the Chicago Bears or the Chicago Cardinals.



1942—Leon Henderson...



Still Cycle Minded—1953

Leon Henderson keeps getting involved with bicycles. Back in 1942, when he headed the Office of Price Administration, Henderson tried to get the country to ride stripped down,



What has TYRANNOSAURUS REX got to do with  
**ARTHRITIS?**

It may surprise you to know that doctors . . . in their search for more knowledge about arthritis . . . have made intensive studies of the bones and joints of prehistoric dinosaurs. They have found that dinosaurs, like *Tyrannosaurus rex*, had arthritic joints.

As a result of these studies, medical science has learned much about the origin and history of arthritis, the joints that are most often affected by it, and how the disease damages them.

Arthritis has long been a leading cause of disability. Today about 10 million Americans have the disease in one of its many forms, the two most common of which are *osteoarthritis* and *rheumatoid arthritis*.

Of the two, *osteoarthritis* occurs

most often. In fact, almost everyone who is beyond middle age has a touch of it, probably as a result of normal wear and tear on the joints.

*Rheumatoid arthritis* is the most severe form of the disease as it affects not only the joints, but the entire body. It usually begins between the ages of 20 and 50.

Not too long ago, arthritis often meant a life of misery or some degree of crippling. Today, the outlook is far brighter for many arthritics. Under modern treatment, *carefully adjusted to the needs of the individual patient*, doctors can do much to relieve or prevent pain and to lessen or prevent disability.

**Treatment, however, must be started**

early for best results. Otherwise, lasting damage may be done to one or more joints.

Arthritis seldom, if ever, strikes suddenly. Any person who complains of a generally "run down" condition, and who has slight but recurring attacks of pain, discomfort or swelling in or about the joints, should be promptly examined by his doctor . . . *before his trouble becomes disabling.*

Authorities emphasize that chronic arthritis is rarely, if ever, controlled by any single measure. They also say that the so-called "sure cures" for arthritis generally do little more than provide temporary relief. Before using any medicine for arthritis, it is wise to have the doctor's advice.

**Metropolitan Life Insurance Company**  
 (A MUTUAL COMPANY)

1 Madison Avenue, New York 10, N. Y.



Please send me a copy of  
 your booklet, 10538.

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_



## THE HAND OF A



# Satisfied Customer

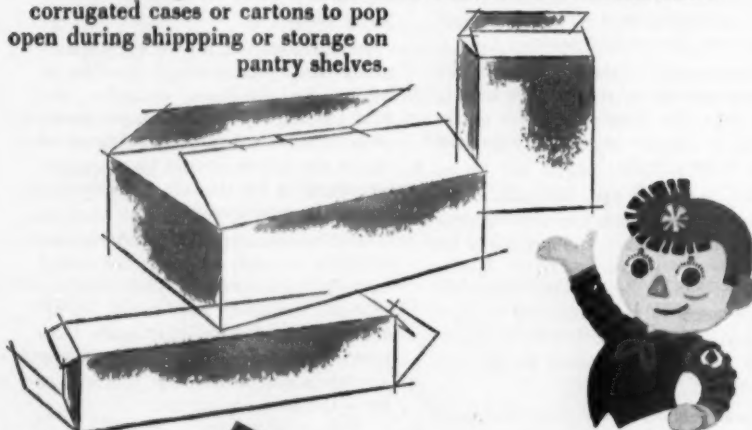
—because of a so seldom noticed item as glue.

As you can see, this housewife's manicure is still intact.

Yet, this is the hand that opens *home delivered* corrugated cases and an endless array of sealed cartons. All, without tugging, straining or nail breaking.

Imaginative adhesive research is responsible.

A National glue, known as **SOFT SEAL®** allows case and carton tops to be lifted with ease. Still, its bond will not permit corrugated cases or cartons to pop open during shipping or storage on pantry shelves.



STARCHES

**National**  
RESYNS®

ADHESIVES

NATIONAL STARCH PRODUCTS INC.  
270 Madison Avenue, New York 16, N. Y.

Victory Model bicycles in the interest of gas and metal economy. Now, he's at it again. His firm, Leon Henderson & Associates, is distributing the Travis Bike Motor, a 14-hp. gasoline engine that may be installed on any ordinary bicycle. Price: \$89.95. Economist Henderson believes the Travis may be the answer to the need for inexpensive transportation arising from the growth of the suburbs and the increasing decentralization of industry.

## Advertising Boon

People who use direct mail advertising got good news last week when the Post Office Dept. announced it will deliver advertising and other matter sent as ordinary mail to specified areas without the need for addresses. All the mailer has to do is ask his postmaster how many people live in the area he wants to cover, then deliver that number of pieces to the post office. Postage must be prepaid. Deliveries will be made to a whole post office area, or to specified neighborhoods as the sender desires.

## MARKETING BRIEFS

**Beer mixups:** In St. Louis, Mo., Griesedieck Bros. Brewery sponsored Cardinal baseball broadcasts all season despite the fact that rival brewery Anheuser-Busch has owned the Cards since last winter (BW—Feb. 28'53, p32). This week, Griesedieck concluded the arrangement. Probable new sponsor—Anheuser-Busch. . . . In Milwaukee, Blatz Brewing Co., already ousted from the Milwaukee Brewers' Assn. in disputes over "fair trade" and labor policies (BW—Sep. 5'53, p48), was dropped by the Wisconsin Brewers' Assn.

**Terminal Barber Shops,** New York, Pittsburgh, and Baltimore chain, has entered the gift book field. It is making available a \$25 gift book containing chits for haircuts, shaves, shines, and even tips. They say the book is tax deductible as a business gift.

**"Making Christmas Merrier"** is the title of a 16-page newspaper supplement being prepared by the Associated Press for its members. Purpose is to broaden local advertising.

**Ten top colors** for high fashion, according to F. Schumacher & Co., New York decorative fabric house, are deep brown, egg shell, jade, charcoal, old gold, willow green, blue green, blue, pink, and raspberry. The top ten were judged from customer demand.





## You needn't be ashamed of being afraid in the dark, son...

During past years that we should never forget, the world has lost lots of good things in the darkness. The darkness is a hiding place for confusion, greed, conspiracy, treachery, socialism . . . and its uglier brother, communism.

But when you are free to question what people say and do, you hold a light so powerful that these things cannot live under it. In the U. S. A. you are free to

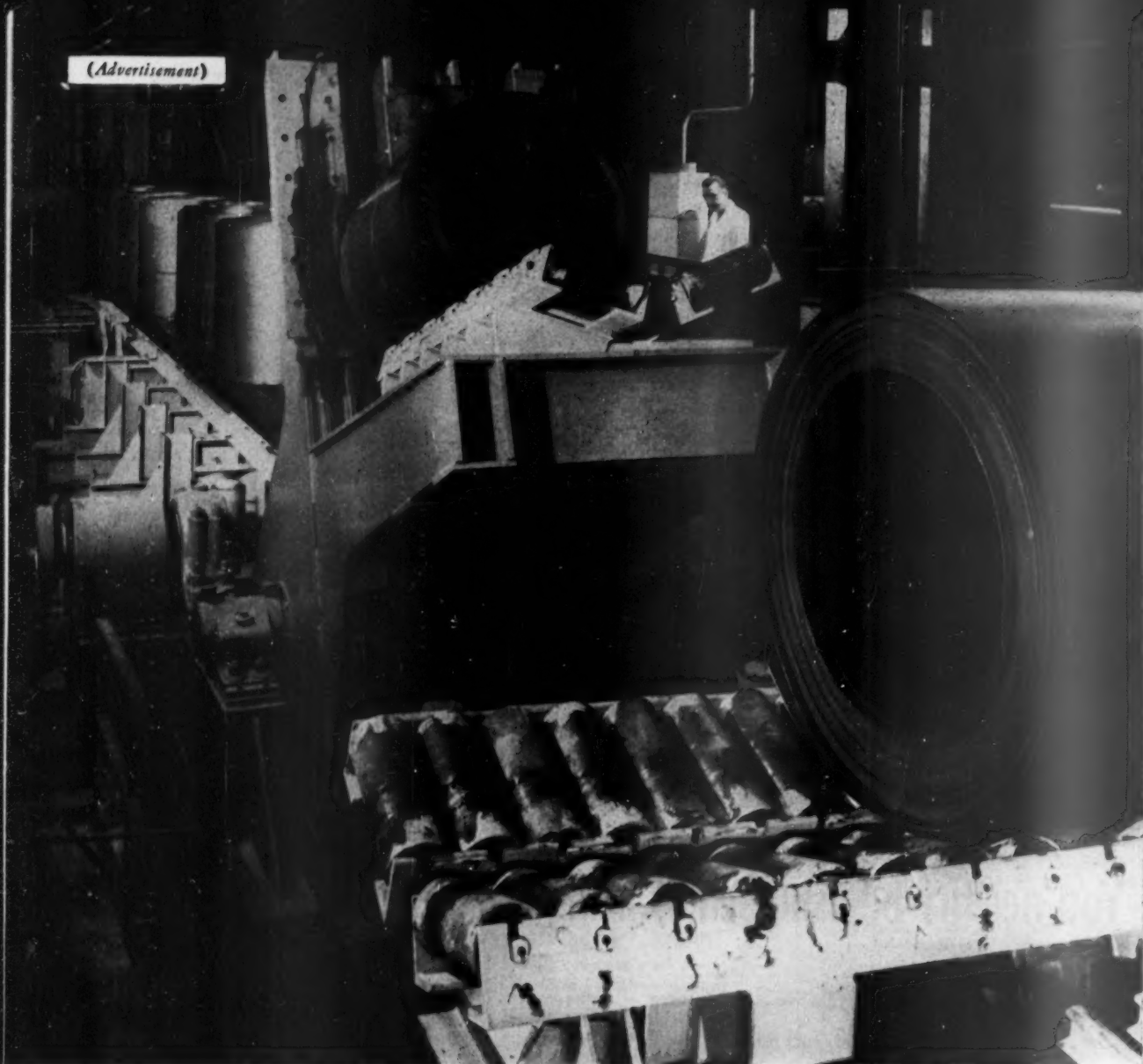
become vigilant to see what's going on, informed to understand it, and vocal to express your opinion about it.

The freedom to keep yourself informed began as a right, but today it has become a responsibility. If you ignore this responsibility, you follow the path where the light grows dimmer and dimmer . . . until you can see nothing at all . . . and what you lose in the dark may be your freedom.

# *Norfolk and Western Railway*

PRECISION TRANSPORTATION

(Advertisement)



By knowing in advance what and how you manufacture . . .

## **Pittsburgh Steel custom builds sheet steel to meet your production line requirements**

**Metallurgists start each sheet order with selection of correct raw materials, then control each process from blast furnace to proper packaging for shipment to customer.**

Manufacturers of automobiles, household appliances, construction machinery, building materials, and the hundreds of other useful products made from steel sheets must meet keen competition . . . they must be able to turn out quality products at the lowest possible prices and make a reasonable profit.

Pittsburgh Steel wants to be sure its customers get a better than even start. To do this, it has adopted a policy of custom building its sheet steel to meet your production requirements, making certain the sheet you order will meet specifications.

Here's how alert men in the metallurgical department have been able to

hit top-quality hot rolled sheets right from the start. First, they have a brand new mill, the newest and most modern of its type in the country. They also have the latest gauges, controls and testing apparatus for assuring quality.

They have another working tool—one that can't be bought and installed



**Analyzing for Carbon**—Bill McShane, Assistant Chief Chemist, holds steel chips the size of finely ground coffee. He is showing them to Combustion Chemist, Charles Keznor, who will weigh and put them into the electric carbon combustion furnace at right, where chips are burned in a stream of oxygen. The carbon dioxide formed is absorbed into a bulb. It is then weighed and the amount of carbon in the steel calculated accurately.



(Advertisement)

**Studying Internal Quality**—Highly polished samples of steel strip mounted in plastic are examined on this inverted metallurgical microscope. Shown above, George Chapman, supervisor of the metallurgical lab, is preparing to inspect the grain structure of the steel. Lack of foreign elements in the steel indicates that it is clean steel.

like a machine—which is the most important of all. It is the human element, the willingness, the desire of every man along the line from raw materials to shipping room to cooperate with each other to turn out the finest, the best-quality flat rolled steel that has yet been rolled.

Pittsburgh Steel's metallurgists believe in close cooperation—not only with the men they work with, but the men they work for—the customers. That's why they prefer to visit a customer's plant before the sheet order is entered. They observe manufacturing processes, see how sheets are being shaped, study blueprints, get all the information necessary in order to determine their recommendations for the best chemical analysis of steel, the correct internal structure, surface finish, what size sheets will work best.

When specifications are approved by the customer, the next step is to assemble the best grades of raw materials—the iron ore, coke, and limestone, then start at the blast furnaces. Through iron making, steel making, pouring ingots, rolling ingots into slabs, rolling slabs into hot rolled sheets—every operation and every process, Pittsburgh Steel metallurgists are on the job day and night around the clock making sure the order is being filled correctly.

What about results? Reports from customers indicate the metallurgists are hitting the mark. Thousands of tons of Pittsburgh Steel's sheet are "proving out" with highly satisfactory performance on scores of production lines.

If you use steel sheets in the manufacture of your products and you have a problem, why not talk to a man from Pittsburgh Steel?



**Testing for Physicals**—Metallurgist, Ben Labeka, checks the finished steel for physical qualities. Here he is, shown above, testing with an Olsen ductility tester, to check the steel for ductility and ease of forming for fabrication. Ben, one of the metallurgists who has helped set up the specifications of the steel after examining customers' blueprints and studying their fabricating methods, now knows that this steel will meet all requirements of the customer.



**Where Coils Become Sheets**—The hot shear line, built for continuous line processing of hot rolled steel, converts coils into individual high-quality sheets. A processor loosens any mill scale. A side trimmer trims the steel to exact width specification. A flying shear cuts the steel to lengths of 3 feet to 30 feet. The steel passes through two sets of levelling rolls to assure accurate flatness. Sheets are inspected and defective sheets rejected. Prime sheets are stacked at end of the line, weighed and banded for shipment.

*"Everything New But The Name"*

# Pittsburgh Steel Company

Grant Building • Pittsburgh 30, Pa.

Sales Offices in Principal Cities Throughout the Country







*Behind Every  
SUNDSTRAND  
Installation...a  
Cost Cutting  
"Engineered  
Production"  
Analysis*

**1 Sundstrand  
Automatic  
Lathe Replaces  
3 Machines**

The Sundstrand Automatic Lathe, illustrated above, is used for turning and facing five different pump rotors and three different covers. Previously these parts were turned on three different conventional turning machines using three operators. This one Sundstrand Automatic Lathe now does the work 2-1/2 times faster with one operator. Production increases and savings like these are commonplace with Sundstrand Automatic Lathes. Investigate their possibilities on your work.

Many manufacturers have found that by combining operations on one machine with one operator in place of a battery of machines with several operators, they have been able to save considerable money in a surprisingly short time. The case history described above is one such example. Look at your machine tools for similar cost saving opportunities.

*... look  
at your  
machine  
tools*

**Additional  
Information**



This new folder explains Sundstrand "Engineered Production" service and what you can expect from its application to your metal working problems. Write today. Ask for Bulletin BW 335.

**SUNDSTRAND  
MACHINE TOOL CO.**

ROCKFORD, ILLINOIS, U. S. A.

## LOCAL BUSINESS

### A Matter of Record

**TUCSON**—Whether or not a city can collect taxes on a plant owned by the federal government but operated by a private company, is a question which caused hot arguments in Schenectady, N. Y., earlier this month, and has turned up here as well. But where the Schenectady case was decided in favor of the federal government (BW—Sep. 12'53,p78), this one has been decided in favor of the local government.

Hughes Aircraft Co. operates a big plant just south of Tucson, in Pima County. In December, 1951, Hughes sold the plant to the U.S. government, although the company continued to operate it. Since then, the company has paid no real estate taxes on the plant, on the theory that it was U.S. government property, and therefore exempt. But the county attorney argued that the new deed to the property was never officially recorded. So, though he didn't deny that the sale took place, he insisted that Hughes was still the owner of record—and thus liable to taxes.

Now Arizona Attorney General Ross F. Jones has ruled in favor of the county. And the county treasurer has filed a delinquent tax notice for \$191,056. If the amount is not paid, the next step—theoretically, at least—would be to put the property up for public auction.

### What's in a Name?

**NASHVILLE**—What is a Junior Chamber of Commerce? If you ask that question in most parts of the country, you will get a prompt and satisfactory answer. But if you ask it in Nashville, you will probably get yourself involved in a fight.

The trouble is Nashville has two Junior Chambers of Commerce, each vociferously upholding its right to the name. Here's the background:

The Nashville Chamber of Commerce has had a junior group for many years. From 1921 to 1934, it used the name, "Nashville Junior Chamber of Commerce," and for a time was affiliated with the state and national Jaycee groups. Then it decided to withdraw from them and operate as a purely local organization. It changed its name to the Young Men's Division of the Nashville C. of C.

Last March, the national and state Jaycee organizations issued a charter to a new group, the Davidson County Junior Chamber of Commerce. For six months, the two young men's groups went along smoothly in peaceful co-existence. But on Tuesday night of

# CONTROL

is our role!

On the seas, in a foundry or a steel plant . . . control is essential. It's the chief role of Keokuk Electro-Silvery Pig Iron in charging the cupola or blocking the open hearth. For with Keokuk, you are assured of accurate percentages of silicon . . . and, as suits your melt, alloys of manganese, chrome or nickel in various combinations. So, control both quality and costs with Keokuk. Write today for complete information!

## KEOKUK

ELECTRO-METALS COMPANY

Keokuk, Iowa  
Wenatchee Division: Wenatchee, Washington



*In sailing, much depends upon control. Here, Chief Keokuk handles the tiller; Junior, the boom; and Princess Wenatchee makes ballasting an eye-popping pleasure!*

Keokuk Electro-Silvery . . . available in 60 and 30 pound pigs and 12½ pound piglets . . . in regular or alloy analysis. Keokuk also manufactures high silicon metal.

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last week, each met in its own hall—and each decided to change its name to Nashville Junior Chamber of Commerce. Each group feels it is the one entitled to the name. Neither appears willing to yield an inch.

## Where There's Smoke...

**PITTSBURGH**—Allegheny County, where smoke from the steel mills and other industrial plants has always been a major problem, has long had an antismoke ordinance. In recent years, the ordinance has been made stiffer. This year, for the first time, it was extended to cover private homes.

This extension went into effect last June, with little fanfare. But people don't heat houses during the summer. They do start thinking about heating in September. Soft coal is the standard home-heating fuel in the area. So the uproar has started in earnest now.

Opposition thus far centers in the four rural townships in the southern tip of the county. Homeowners in each have organized associations to fight the ordinance, and the four groups have held joint meetings to plan joint action. "Smoke is a city problem," says one spokesman. "We don't have a smoke problem in the country. So why should we double our fuel bills?" And another: "A man has a right to decide what he'll put in his own furnace. They'll have to arrest us first."

"They" refers to the County Smoke Bureau. And a spokesman for the bureau agrees it will have to resort to arrests if the homeowners defy the law, because: "We don't make the law; we just enforce it."

## Update

**ROCHESTER**—Early this summer a Rochester manufacturer who wanted to expand looked over nearby Canandaigua (28 mi. southeast). He liked the city, but was about to back out because he wasn't sure of an adequate labor supply for his 1,000-man plant. At that point Canandaigua leaped to action. Every civic group in town cooperated in a survey, which showed that no less than 2,600 workers might be interested in jobs at the new plant. The city sat back, confident that the plant was theirs (BW—Jun. 27 '53, p143).

Last week its hopes were dashed. Fasco Industries, Inc., the manufacturer in question, announced it had bought a site in Rochester. Principal reason for rejecting Canandaigua: the operational difficulties stemming from the distance between the two plants. Canandaigua's efforts were not entirely in vain, however: Its demonstration of community spirit has drawn several nibbles from other companies.



*Carpenter A. E. S.\**



## Life Saver for Small Fry



*Another example of how Carpenter  
\*Application Engineering Service  
is working for industry*

You know how youngsters are on a trip—they love to be near the window to make sure they see everything whizzing by. But that can be dangerous . . . a door can fly open, a tragedy can strike.

That's why this safety door lock was invented. Quickly attached, it keeps children in . . . enables them to enjoy the trip, safe and secure. To open the door, the driver simply pulls a release knob. But the production problem wasn't as simple as that.

The material for the lock had to be economical to fabricate, had to provide high strength, corrosion resistance and a bright finish. Cold rolled steel,

chrome plated, was tried but it just couldn't make the grade.

Then Carpenter was called in and Application Engineering Service went to work. Results: They used Stainless No. 6 (Type 430), a bright, high-strength, easy-working Stainless produced by Carpenter for just such jobs. No. 6 met all the requirements . . . and made the lock a real sales winner.

Here is another example of how Carpenter A.E.S. is working with industry to unearth new ways to make products more functional, more salesworthy, more economical to produce. You can count on this Carpenter service to help bring these advantages to your plant, too. It goes to work as soon as you get in touch with your Carpenter Mill-Branch Warehouse or Distributor. THE CARPENTER STEEL CO., 140 W. Bern St., Reading, Pa.



# *Carpenter* STEEL

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*Pioneering in Improved Tool, Alloy and Stainless Steels Through Continuing Research*

Would you want to pay

2



salaries

for

one



job?

**S**UPPOSE a key man in your firm has just met with a bad accident.

The doctor tells you that this man upon whom you depend for directing sales, for auditing your books or for performing some other vital function, will be laid up for months.

You'd have to replace him, wouldn't you—and probably at a salary about equal to his?

Then you'd be faced with paying two salaries for one job—a circumstance forced on you because stopping the pay of an injured man would simply be out of the question.

You can prevent this kind of unproductive drain on your payroll by providing your key men with the protection of Travelers Business Accident insurance.

This insurance provides medical expense coverage and a weekly income in case a key

man is temporarily disabled. Should the disability prove permanent, *an income for life is guaranteed.*

Why not make out a list of your key men now? Then, get together with your Travelers agent or broker, and let him tell you how little it costs to apply this much needed protection to your business.

If you don't know the Travelers man in your community, write and we'll send you his name and address.



YOU WILL BE WELL SERVED BY

*The Travelers*

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ALL FORMS OF EMPLOYEE INSURANCE

# PRODUCTION

## TV Warms Up for the Shift to Color

- Move from black-and-white will be the biggest production change in electronics history.

- RCA system is expected to go on the market early next year with FCC approval.

- Complexity of the sets, and the need for high-cost parts, are likely to keep the prices high.

Electronics manufacturers are facing the biggest production switch in their history—the shift from black-and-white television to color. Actually, it is a bigger change in techniques than the shift from radio to TV.

The industry will have a tough time taking the technical standards for color that the Federal Communications Commission has pronounced to be gospel, and translating them into reasonably priced receivers that can show a multicolored Howdy Doody. Still, the electronics industry is used to fast change. During the 1930s, new products such as built-in power supplies and new tubes made radical changes in AM radio sets. Recently, there has been the shift from radio to video. Year by year the changes become more difficult, requiring more engineering and yet more cost-cutting techniques in production.

- **Getting Ready**—Color TV is no exception. The color receivers of the future will be the most complicated batch of electronics ever produced for the consumer market.

But manufacturers have been pushing their engineering departments to have finished sets ready for market as soon as possible after FCC gives its O.K. Color's future will closely follow this timetable:

- The industry, through the National Television System Committee, is ready to give FCC a demonstration of the compatible (RCA) system of color TV. This week NTSC announced that the color demonstrations will begin in New York City on Oct. 15.

- The experts believe that FCC will have unsnarled its red tape by the first of the year and will be ready to give its formal approval. The chances are that the demonstration will be enough to convince the commission without the usual hearings. FCC would hold hearings if there were enough opposition to the system. But so far no significant objections have been raised.

- The first color models will be

ready for the market immediately after the government's go-ahead. Industry talk is that RCA will be the first to have a finished model. Some other makers will follow in a month or so. Most companies will be ready by June, at the latest.

- Mass production will take about a year and a half after the first models come off the line. The early models will have the same quality and performance as the mass-produced jobs. The only advantage in large-scale assembly will be reduced costs.

The initial models will be sold to a pretty limited market—consumers in the two-car garage bracket. The manufacturers don't agree yet on the costs of features of their first sets. They will sell for between \$850 and \$1,500, and have squirt-sized screens of 12 in. or 17 in.

Screen sizes, says Dr. W. R. G. Baker, a vice-president of General Electric Co., and chairman of NTSC, will take a big jump to around 21 in., but only after the industry and its parts suppliers have had enough time to get to the mass-assembly level.

- **What Price?**—The eventual prices of the mass produced sets are anyone's guess. Benjamin Abrams, president of Emerson Radio & Phonograph Corp., recently claimed that 18 months after color is approved Emerson will market a 17-in. model for about \$240. Other manufacturers don't agree. Dr. Allen B. Du Mont, head of Du Mont Laboratories, Inc., doubts that even five years of full-throttle output will get color set prices down to double the price of comparable black-and-white sets. Most other industry experts go along with Du Mont's cost accounting.

Color video's complexity is the main reason for the high cost of its broadcasting operations and receiver production. The innards of a color set aren't simply a rearrangement of the electronic parts that make up a black-and-white model. The color receiver is almost completely redesigned, and needs

more engineering than ever before.

The higher standards of color boost the requirements in two ways. The sets will need more tubes and parts. And the quality of many of the components will have to be better than average to handle color adequately. Both ways, that hikes the final cost.

- **Cost Cutting**—Some production men foresee fewer chances for cost cutting with color sets than they have had with black-and-whites. Conventional video reception has allowed production departments to cut some corners by using dual-purpose circuits, and slightly cheaper parts. The savings from mass assembly and down-graded engineering have meant cheaper and cheaper model prices, but haven't affected the quality of the picture.

Color video is finicky. Many of the circuits won't take the substitution of cheaper ones without spoiling the colors and hues. At the same time, receiver engineers will be looking for ways of slicing dollars off the cost, where they used to be satisfied with savings of pennies in black-and-white sets.

However, even if the engineers are forced to stick to high-quality, costly parts, there will still be one out in cheaper production techniques—labor-saving, automatic assembly methods of electronic circuits that are now being developed by the industry, and getting pilot try-outs.

The picture tube used in a color set is one illustration of the many reasons why set prices won't come down in a hurry. Today's picture tube, using three electronic guns, has a total manufacturing cost of about \$200. The labor and materials for assembling the guns alone add up to \$35. Du Mont doesn't think that it will be able to knock more than \$50 or \$60 off the present price, after it reaches full output. By contrast, a black-and-white tube costs \$40; its single gun \$1.

- **Many Minds**—The cost problem of color won't be the problem of the set manufacturers alone. They'll get a lot of help from outsiders. The video receiver industry comprises around 1,500 different companies. More than half are manufacturers who feed parts and components to the bigger set makers. They have been able to hold down the production costs of their parts, without shortening their service life. In the future, the parts makers must follow the same line, but somehow jack-up the tolerances of the products, slated for color sets.



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## Air Force Lightens Its Heavy Press Program

The Air Force's heavy press program has come through the Pentagon's budget slashing as healthy as ever, but now a little thinner.

Aviation Week, a McGraw-Hill publication, says that the program will work with 10 presses for the future—instead of the originally projected 17. That's the result of several contract cancellations that chop about \$129-million out of the original \$389-million project (BW—Jun. 27 '53, p108).

• **Shuffles**—Alongside this change, there has been one big reshuffling among the companies operating the presses. Originally, Reynolds Metals Co. had been slated for an 8,000- and a 12,000-ton extrusion press. But recently Reynolds ran into budget problems of its own. The Air Force asked the firm to pick up the tab on housing for the presses at Reynolds' Phoenix (Ariz.) plant. Reynolds, though, finally decided that it couldn't spend company money for an outside project.

The two presses have, instead, been reassigned to two other companies in the program: Kaiser Aluminum & Chemical Corp., and Harvey Machine Co. Kaiser gets the 8,000-ton job for its Halethorp (Md.) plant. Harvey will operate the 12,000-ton model.



## To Protect Players

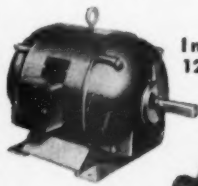
Baseball caps are one of the latest applications for a Bakelite plastic reinforced with Fiberglas. A plastic liner, covered by a felt-like material, protects players from bean balls. Fred Haney, manager of the National League's Pittsburgh Pirates (above) demonstrates the strength of the liner.



## R & M "Electric Slide Rule" predicts motor performance—in 20 minutes flat!

### CUSTOM-DESIGNED OR STANDARD ...

There's an R & M motor that will meet your exact requirements!



Integrals—to 125 horsepower

Fractionals—from 1/200 horsepower



Matched Motor Parts—for built-in applications

*If it's an R & M,  
it's the Right Motor!*

### Important news for the executive with motors in his product

The equipment you see above is a unique development in the electrical field! It's actually an "electrical slide rule"—conceived and built by Robbins & Myers to solve your motor design problems *quickly, accurately, at low cost.*

For example, a business machine manufacturer needed a motor with a lot of power in a small package. Designing a motor and testing it might have taken several weeks—and then the designer couldn't have been sure he had the best motor for the job. That's where we put the R & M "Electrical Slide Rule" to work.

Without going into complicated details, here's what the R & M "Electrical Slide Rule" does. By setting up *electrical equivalents* to the conditions under which the

motor must operate in your product, R & M engineers are able to investigate one or a hundred different design possibilities... simply by turning the dials! Result? The *best* motor for the job—and found quickly!

In short, thanks to the R & M Electrical Slide Rule, the *exact* motor for your job can be worked out or selected from among *many* different types or sizes. The final answer may be either *standard* or *custom-designed* R & M motors or motor parts. But in either case you will get an *accurate answer quickly*—with no obligation!

### For Helpful Information

Write today, explaining your problem, to Robbins & Myers, Inc., Motor Division, Springfield 99, Ohio.

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MOTOR DIVISION; SPRINGFIELD 99, OHIO • BRANTFORD, ONTARIO



Fractional & Integral Motors & Generators



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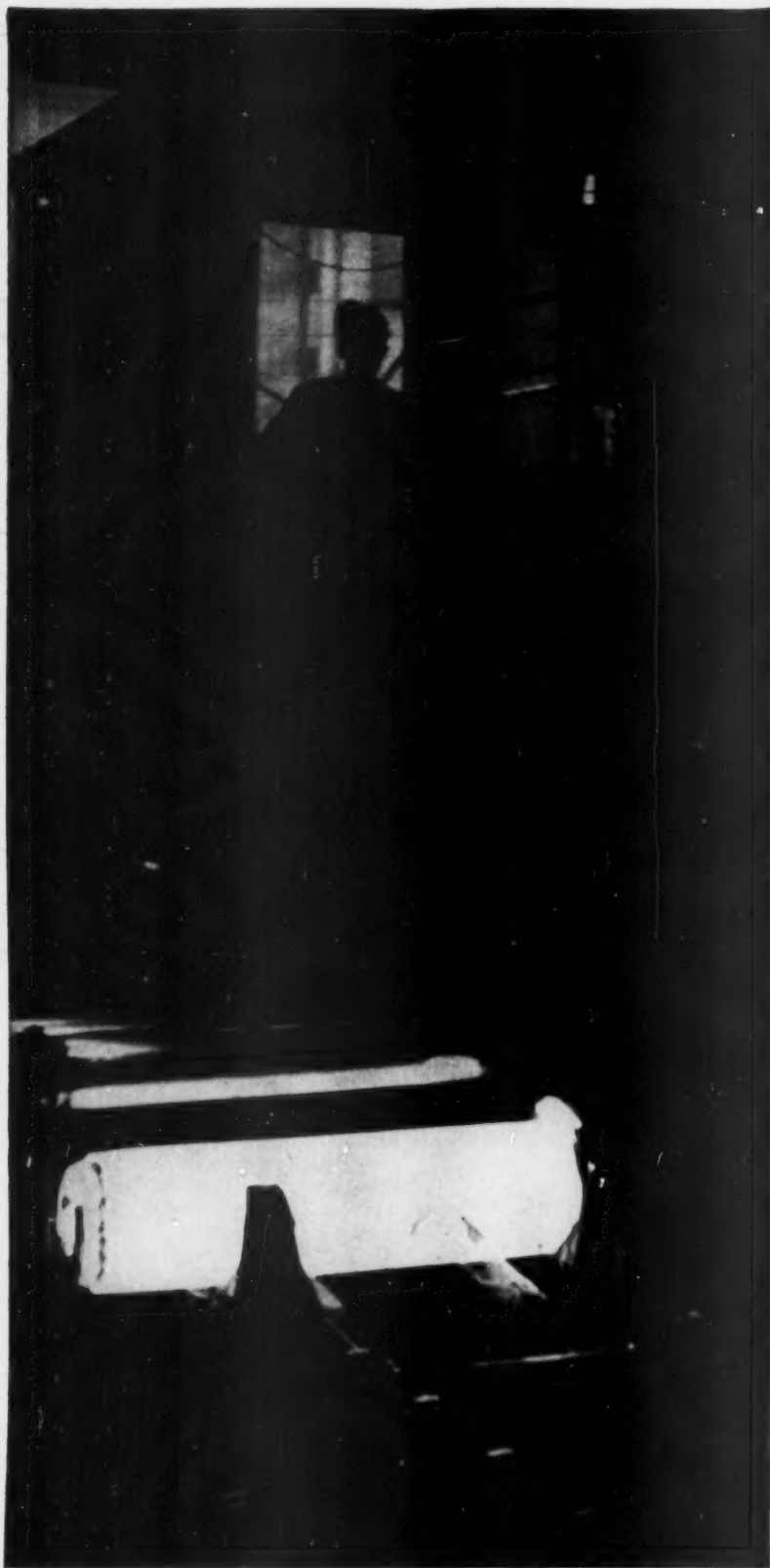
Electric & Hand Hoists & Cranes



Moyno Pumps



Propellair Industrial Ventilating Equipment



**A PUSH ON A BUTTON** by rolling mill operator starts rough forged shells moving along 155-mm. automatic production line at Rockford Ordnance Plant in Illinois.



**FIRST INSPECTION** of rough forgings precedes conveyor line taking them to . . .



**STIRRUP-SHAPED** conveyor carries shells to electric welder and bander.





**GIANT HYDRAULIC PRESS** that hollows out forgings and compresses them into semi-finished shells. Later comes . . .



**AUTOMATIC LOADING** of nosed shells into electric heat treat furnaces, then into quench tanks after cooling. Further steps . . .



**TESTING** and measuring require human hands, to see if reworking is needed before shells go to government inspection, but . . .



**AUTOMATIC SPRAYER** puts regulation O. D. paint on shells and sends them on for the final look-over at the end of the . . .

## Push-button Line for Ammunition

Making ammunition is becoming almost as mechanized an operation as bottling Coca Cola. And the Rockford (Ill.) Ordnance Plant (pictures) is fast becoming the pacesetter for the industry. Its 155-mm. shell production line might be called an automatic factory without computers.

Steel bars about 24 ft. long and 6-in. square are placed by a hand-operated overhead crane on a series of metal saws to be cut into billets less than one ft. long and weighing about 120 lb. From then until the finished shell

case is packaged for shipment, it is not touched by human hands, except for inspection.

• **Origin**—The plant was designed and built by W. F. John Barnes Co. under supervision of Defense Plant Corp. in 1941. During World War II it turned out 37-mm. and 57-mm. shells. The 155-mm. automatic production line was installed but never operated before the plant went into moth balls in 1946.

Right after the Korean outbreak, Chicago Ordnance District reopened the plant, had the 155-mm. line com-

pleted. It was rolling in late 1951.

In March, 1953, Pressed Steel Car Co., Inc., of Chicago, landed the contract to manage and operate the plant largely on the strength of general production know-how. It had made wartime tanks and other armored vehicles.

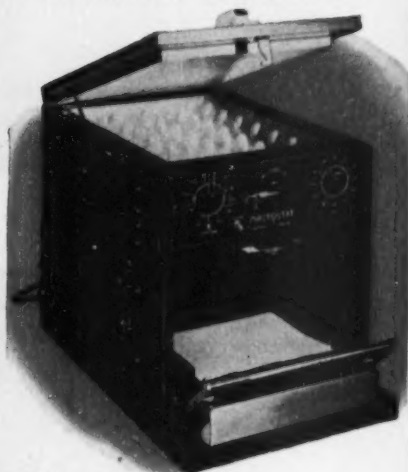
• **Key**—The plant's efficiency is due to the variety of conveyors and loading and unloading devices along the line.

Shells travel on fork lifts, aerial and roller conveyors, are picked up and set down by mechanical jaws. To see how it works turn the page.

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amazing new  
**VERIFAX PROCESS**



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(FOR USE IN ANY OFFICE — EVERYWHERE)

IT WILL MAKE THREE OR MORE  
BLACK-ON-WHITE COPIES OF  
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UP TO 8½" x 14" IN ONE  
MINUTE READY TO USE!

IT TAKES UP LESS THAN TWO  
SQUARE FEET OF FLOOR SPACE  
ON DESK OR TABLE . . . IT CAN  
BE USED UNDER ANY NORMAL  
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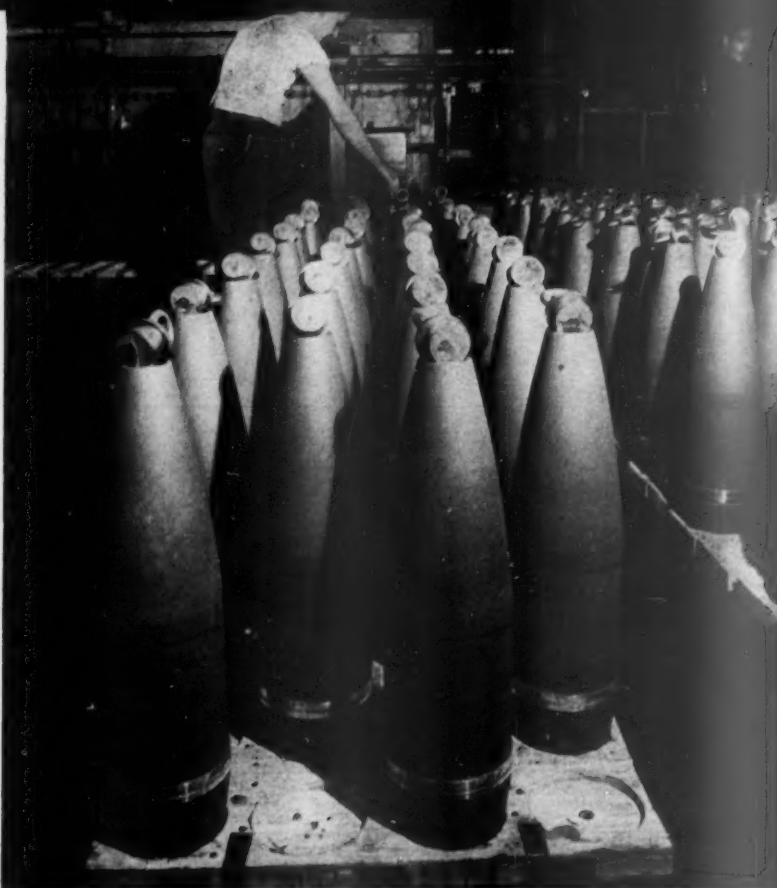
The PHOTOSTAT INSTANT COPIER is designed to get the very best results from the new EASTMAN KODAK COMPANY'S VERIFAX process . . . a truly revolutionary method of making copies of anything typed, printed, written or drawn. It is entirely different from, and should not be confused with, any previously known process. No other office copying equipment can equal the versatility and flexibility obtainable with the combination of the new PHOTOSTAT INSTANT COPIER and the VERIFAX process. (And it is fully guaranteed by Photostat Corporation!)

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FINISHED SHELLS from Rockford's 155-mm. automatic production line are placed on pallet bottoms, lift plugs removed temporarily to check for paint puddles, then . . .

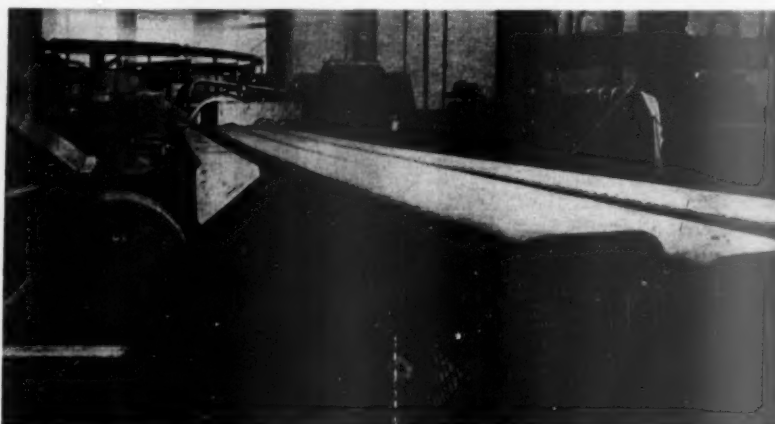
## Pattern for Smaller Plant

When Pressed Steel Car Co. took over the Rockford plant operation, its only changes were in top management. It kept the plant's 600 employees and basic equipment. It retained the feature that makes Rockford a possible pattern for small plants that see the trend toward automation but feel control equipment might be too costly.

That feature of the Rockford line is

emphasis on the operation itself rather than on elaborate controls. Many control functions could be performed by electronic sensory apparatus—but the builders and managers preferred to keep people. The human operators use judgment in loading the ovens and machines to keep too many pieces from piling up.

John Diebold cited the plant in his



Long bars of shell steel feed into hopper, emerge . . .



FINAL STAGE also requires human hands, as special tops go over the lift plugs, and three wires lock them. It's the human control element that makes Rockford a . . .

## Automation

(Story starts on page 68)

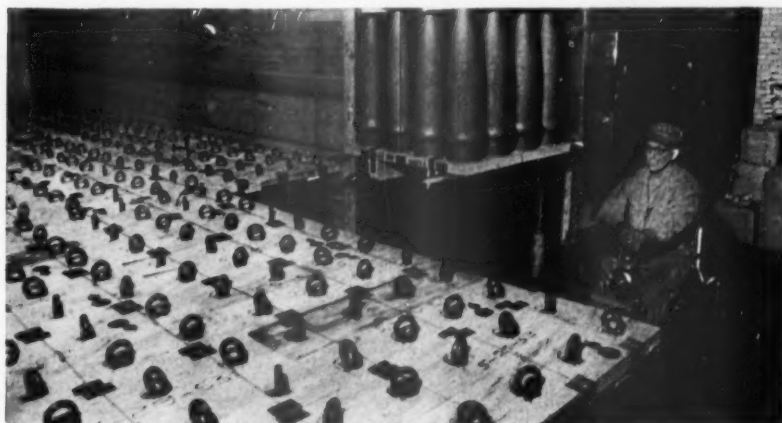
Automation—The Advent of the Automatic Factory as an example of how automation can be made efficient without waiting for computers to become cheap and readily available.

• **Savings**—Pressed Steel has already been able to increase efficiency and save some money for the government by design changes and savvy purchasing:

• Redesign of the basic shell forging cut the billet size from 10 $\frac{3}{4}$  in. to 10 in., reduced weight by 8 $\frac{1}{2}$  lb., saved 52¢ per shell.

• A new source for lift plug castings inserted in the shell's nose (where the fuse goes later) charged 4¢ apiece less than previous suppliers.

• A new supplier of packaging pallets cut the price 11¢ per pallet.



. . . as packaged 155-mm. artillery shells, ready for shipment.

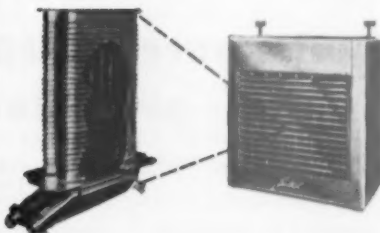
BUSINESS WEEK • Sept. 26, 1953

CAREFUL COMPARISON  
ASSURES BETTER HEATING

# NO OTHER UNIT HEATER

*has this  
amazing*

## PERFORMANCE RECORD!



Since 1940, more than a million exclusive Janitrol design steel heat exchanger tubes have been sold . . . replacement of these tubes for any cause is less than  $\frac{1}{4}$  of 1 %.

For dependable heating, make sure your selection is Janitrol.

Write today for literature describing unit heater installations that cut service, operation and maintenance to a minimum.

**Janitrol**  
*Gas-Fired*  
**UNIT HEATERS**

**SURFACE COMBUSTION  
CORPORATION**

TOLEDO 1, OHIO



## Guardian Embezzles \$21,000 From Estate

### Prominent Citizen Admits Stealing Cash and Juggling Mortgages

\_\_\_\_\_ well known local figure and long active in the management of many estates, today admitted responsibility for the \$21,000 shortage uncovered in the estate of \_\_\_\_\_, for whom Mr. \_\_\_\_\_ had been appointed guardian.

\_\_\_\_\_ revealed under questioning that he had manipulated the funds of the estate for several years. However, the estate will suffer no loss as the guardian was bonded by a surety company. The district attorney's office has also



## Make sure YOUR estate is protected!

This actual case—#153589 in our claim files—proves that it's dangerous to rely only on standing and reputation. Further investigation in this case showed that this man had also stolen or lost through mismanagement nearly \$150,000 from other estates!

No matter how reputable or experienced your executor or trustee may be—specify that he give a surety bond. In this way you'll be sure your estate will be protected!

*For the best in protection . . .  
call your American Surety Agent!*

# AMERICAN SURETY COMPANY

100 Broadway, New York 5, N. Y.

FIDELITY • SURETY • CASUALTY • INLAND MARINE • ACCOUNTANTS LIABILITY  
AVIATION INSURANCE THROUGH UNITED STATES AVIATION UNDERWRITERS, INC.



## Chemistry Encyclopedia Keeps on Expanding

With chemistry working its way into more and more fields, there's a growing need for a good, general reference work to put all these developments in perspective. Interscience Publishers, Inc., 250 Fifth Ave., New York, set out several years ago to do the job in 10 volumes.

The subject has kept growing, forcing the editors to revise their schedule. Vol. 9 (Metal Surface Treatment to Penicillin) and Vol. 10 (Pentacene to Polymethine Dyes) came off the presses this summer. The editors now estimate that it will take them another four volumes to reach zirconium.

The encyclopedia has turned out to be a gold mine for researchers. While it may not always provide the last word for specialists, it provides both a sound technical orientation and bibliographies for those who want to go into a subject more fully. The encyclopedia is arranged by broad subjects. Articles are written by specialists and signed.

As an example of the range of material, here are some of the topics covered in the 943-pg. Vol. 10: Plasticizers by Arthur K. Doolittle of Carbide & Carbon Chemicals Co., petroleum chemicals by A. D. Green of Esso Laboratories, Standard Oil Development Co., photography by T. J. James of Eastman Kodak Co., plywood by J. G. Meiler of Coos Bay Lumber Co., platinum group metals by Edmund M. Wise of International Nickel Co., Inc., and photoelectric cells by V. K. Zworykin of Radio Corp. of America.

The Encyclopedia of Chemical Technology as the series is called is edited by Raymond E. Kirk and Donald F. Othner, both of Polytechnic Institute of Brooklyn, and others. Subscription price for the set is \$25 per volume; single copies \$30.

## PRODUCTION BRIEFS

Iron ore will be turned out as a by-product of nickel mining by International Nickel Co. of Canada, Ltd. INCO is starting construction of a \$16-million plant near Copper Cliff, Ont., as the first unit in an operation that will ultimately yield about 1-million tons a year of high grade iron ore.

The oscillograph (BW—Sep. 19'53, p. 56) turned up some new statistics for the baseball record book. It clocked Dodger Joe Black's speedball pitch at 93.2 mph.

A rocket propulsion motor that can pro-

# Revolution in Low-Cost Homes

★ *Nation's largest producer of prefabricated houses presents all-new 1954 "Pacemakers."*

★ *Emphasis is on air conditioning, smarter designs, bigger kitchens, "traffic flow" floor plans.*

★ *Yet feature for feature, prices are the lowest in National Homes history.*

"A surprise in every room" aptly describes the new "Pacemaker" line of 2-, 3-, and 4-bedroom houses being introduced today by National Homes Corporation. Novel features abound throughout these precedent-shattering homes.

Biggest surprises of all are "Pacemaker" prices and terms—the lowest, feature for feature, in National's history.

Through the magic of tremendous mass buying and supremely efficient production, the 1954 "Pacemakers" require only a few hundred dollars down and payments of around \$2 per day.

★ **Variety Unlimited**—The "Pacemaker" line has a home for every family taste, every family need. A choice of many floor plans is offered, each in a wide selection of smart ranch-type exteriors. All were designed under the personal direction of Charles M. Goodman, AIA, noted Washington architect.

A dozen distinctive color schemes have

been created for these new houses by Beatrice West of New York City, foremost American color stylist. Even the roof tones are specially developed to set off the beautiful ensembles.

## NOW—AIR CONDITIONED!

All National homes are now available with air conditioning at unbelievably low cost, annually averages only a few cents a day to operate!

★ **Bigger Kitchens**—Aside from air conditioning, perhaps the most exciting change in the new "Pacemakers" is the larger kitchen with increased dining area, found in all models.

These larger kitchens permit additional cabinets and more work surfaces. A home

laundry area and generous storage room are right alongside.

In fact, the entire house has "more places to put things." The number of floor-to-ceiling closets has been stepped up, with twin closets in the master bedroom; all have full-opening folding doors. Bedrooms and bath have shoulder-high windows, affording privacy and more wall surface for variety in furniture placement.

"Pacemaker" floor plans are based on an all-new "traffic flow" principle. Each room, each doorway, is located for maximum convenience according to the normal flow of traffic in the home.

Other "out-in-front" features include: complete modern bathroom; automatic furnace and water heater; Fiberglas insulated outside walls and ceiling; interior walls of room-sized Upson Strong-Bilt Panels—crackproof, pre-decorated.

★ **Nationwide Showing Now**—In hundreds of cities, National Homes builders have erected a 3-bedroom "Pacemaker" for public display, starting on Saturday, October 3. You are cordially invited to inspect it.

These show houses are completely furnished, and may be purchased with such optional equipment as Bendix Duomatic Washer-Dryer, Crosley Dishwasher Sink and Food Waste Disposer, Norge Refrigerator and Range, Hunter Attic Fan, kitchen exhaust fan, storm windows; porches, breezeways, carports or garages; and, of course, air conditioning.

See your newspaper for location of "Pacemaker" Open House nearest you. Or write National Homes, Dept. BW53, Lafayette, Ind., for illustrated brochure.

★ **Opportunity for Builders**—Local builders can sell more houses at a profit, with less inventory and greatly reduced overhead, by buying structural parts and materials in one quality "brand-name" package from National Homes. Let us show you what others have done. Your area may be open. For details, write on your business letterhead.

© 1953

## NATIONAL HOMES CORPORATION

Lafayette, Ind. • Horseheads, N. Y.

BETTER HOMES BUILD A BETTER AMERICA

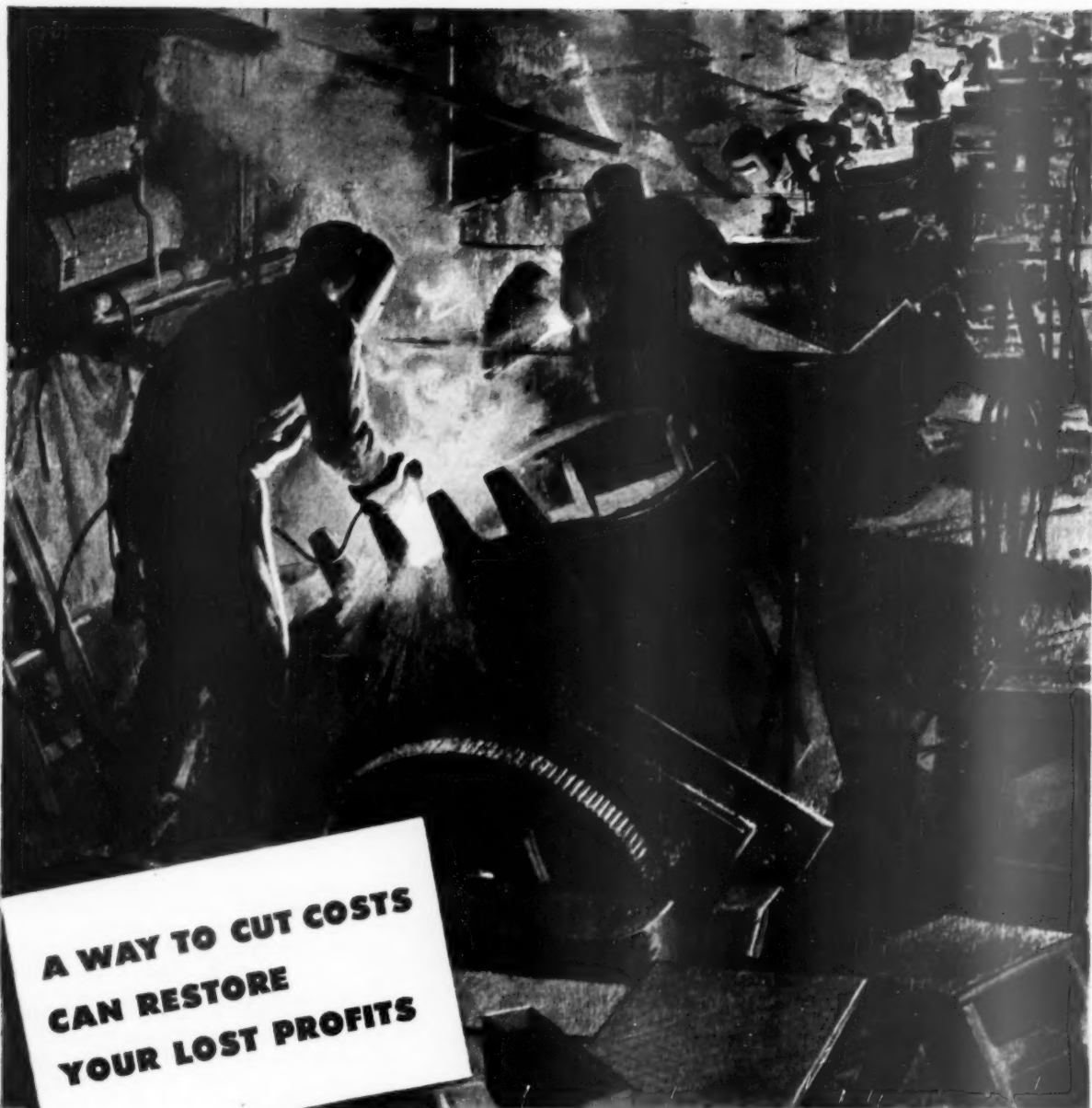


**3-BEDROOM  
"PACEMAKER"**

One of the many beautiful new designs. National Homes also announces 1954 "Custom-Line" houses—larger models, some with bath and a half or two baths, plus many additional de luxe features. Costs of all models vary according to local conditions. Illustrated brochure sent free.



LARGER kitchen includes a spacious dining area, more cabinets and more work surfaces.



**A WAY TO CUT COSTS  
CAN RESTORE  
YOUR LOST PROFITS**

**I**f rising costs have squeezed the profits out of your manufacturing, it is very likely that the twin production team of oxy-acetylene flame cutting and electric arc welding can bring you the needed savings in metal fabrication costs. This modern manufacturing technique has brought substantial savings in hours and materials to many makers of products ranging from children's toys and household appliances to locomotives and heavy industrial equipment.

By this time-saving, cost-cutting method of making things, components are first accurately and swiftly cut from stock materials with the oxy-acetylene

flame, either with hand-held torches or by NCG precision cutting machines. Then these components are quickly joined by modern electric arc welding. And the elements welded may include stampings, castings or forgings as well as the flame-cut parts. Usually the product thus produced is not only less costly, but lighter,

stronger and better looking.

Why not write or wire *now* asking an NCG sales engineer to call and consult on *your* particular problems? You will be under no obligation . . . and he will bring you unbiased technical counsel born of NCG's 30 years experience with *both* flame cutting and electric arc welding. Further, NCG's 73 manufacturing plants and the hundreds of NCG Authorized Dealers offer dependable service and supply *always* . . . wherever you are.

**NCG®**

**EVERYTHING FOR WELDING**

**NATIONAL CYLINDER GAS COMPANY**

*Executive Offices:*

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Copyright 1953, National Cylinder Gas Company



duce over 20,000-lb. thrust has been developed by General Electric Co. GE says that in everyday terms this means power equivalent to two 2,000-hp. locomotives pulling a train at sea level.

Molded ridges in a chevron pattern on a rubber conveyor belt shed or retain water depending on the incline of the conveyor and the angle of the rollers. Made by B. F. Goodrich Co., the special belt automatically channels the water off finely ground taconite traveling from storage tanks for processing.

A "Foreign Legion" of foreign-born engineers is being set up at the Fort Worth (Tex.) Division of Consolidated Vultee Aircraft Corp. similar to the one at Convair's San Diego (Calif.) Division (BW-Dec.20'52,p60). These men work on commercial, nongovernment projects outside the plant gates. A few, who have received security clearances, join the regular engineering staff inside.

Crystallized silica, much harder and a fourth more dense than ordinary quartz, has been developed in the laboratory of Norton Co. The new rock, not found in nature, was formed by subjecting various substances containing silicon and oxygen to a pressure of 35,000 atmospheres at a temperature of 750C for 15 hours. The discovery may throw light on how various minerals are formed in nature.

Microwave radio will be tested by the Phoenix (Ariz.) Fire Dept. as alarm equipment. If all goes well it may replace familiar telephone call boxes. Setting up of the test equipment will be handled by Radio Corp. of America with help from the city.

Latest entry in the reinforced plastic pipe race is Minnesota Mining & Mfg. Co. Three M has acquired certain patents and inventions relating to the manufacture of the pipe from Gustin-Bacon Mfg. Co. The two companies will participate jointly in research aimed at improving the product and developing a line of fittings and couplings.

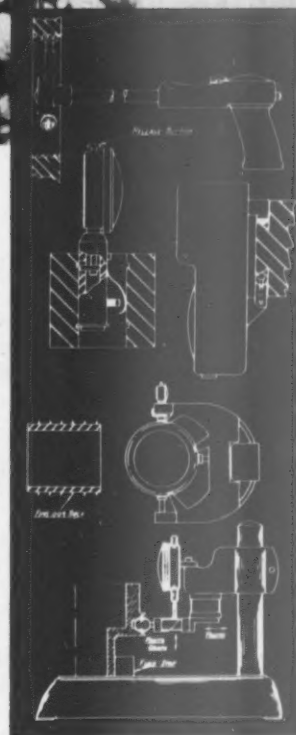
Plant Expansions: Koppers Co., Inc., is planning construction of a plastic development plant at the site of its large Kobuta (Pa.) chemical plant to produce several new products in quantities sufficient to satisfy preliminary commercial orders. . . . Navajo Uranium Corp., a subsidiary of Kerr-McGee Oil Industries, Inc., will build a plant at Shiprock, N.M. to process uranium ore gathered from leases on the Navajo Indian Reservation.



## Gages must be properly matched with your requirements

GETTING THE RIGHT GAGES . . . like marriage . . . is a cooperative arrangement: It requires confidence and close cooperation. You need to take advantage of the gage maker's specialized knowledge in designing and building precision gages—his knowledge of how to magnify and transfer measurement variations precisely, without loss of motion, with a minimum of friction and inertia in the working parts, and the hundred other details which do not concern the usual tool and machine designer.

Many thousands of dollars are wasted annually by designing and building special gages already available as Federal catalog gages or catalog gages with slight modifications. Whether you need an Air or Automatic Gage or a Dial Indicator type, call in Federal when you start processing a job and let us engineer your gages for you. Federal Products Corporation, 129 Eddy Street, Providence 1, R. I.



The above drawings illustrate how catalog gages can be simply and inexpensively modified to suit a special requirement. Why go to greater expense and time? Call FEDERAL.



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<input type="checkbox"/> I would like to discuss a gaging problem with you.	
I am interested in the latest improved gage or gages below:	
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<input type="checkbox"/> Dimensional Dial Gages	Company _____
<input type="checkbox"/> Dimensional Air Gages	Street _____
<input type="checkbox"/> Multi-dimension Gages	City _____
<input type="checkbox"/> Continuous Measuring Gages	State _____
<input type="checkbox"/> Automatic Sorting Gages	

The Prophet could have said:

## A MOUNTAIN OF NEW BUSINESS Comes to YOU!

INTERNATIONAL  
SOFT DRINK  
INDUSTRY  
EXPOSITION  
CHICAGO  
NOV. 9-12

**HERE'S** an industrial show offering a rare opportunity for your company to contact, under one roof, the top management, as well as the production and marketing executives of the nation's Soft Drink Industry.

**FOR 4 DAYS** executives of the industry's 6,000 plants will be at Chicago's International Amphitheatre . . . eager to see, to compare, and to **BUY** the newest equipment, products and services.

**200 SUPPLIERS** whose products are already in use by soft drink bottlers will be there to claim their share of this expanding market. And a very profitable share it will be, too!

**HOW ABOUT your firm?** Here's an opportunity to diversify your market, or to adapt your product to new uses of this rapidly expanding billion dollar industry.

**DECIDE TODAY** to "prospect" this mountain of NEW business. Write for information about available exhibit space . . . or ask for complimentary admission credentials.

**AMERICAN BOTTLERS OF CARBONATED BEVERAGES**  
1128 Sixteenth Street, Northwest • Washington 6, D. C.

DOLLARS GO FARTHER WHEN YOU

## Reduce Inventory

Free those captive inventory dollars . . . make hose lines right in your plant with Aeroquip Matched Hose and Fittings. An amazingly small supply of bulk stock meets practically all requirements.



**Aeroquip**  
REG. TRADE MARK

**FLEXIBLE HOSE LINES** with Detachable, Reusable Fittings

**MATCHED FOR GUARANTEED PERFORMANCE**

**AEROQUIP CORPORATION, JACKSON, MICHIGAN**

## NEW PRODUCTS



### Microscopic Assembly

One reason why transistors are expensive is the great amount of precision work involved in spacing, binding, and welding the whiskers onto the tiny crystal. Fatigue and eyestrain bother the operator; the results are frequent rejects and spoilage.

Now Bausch & Lomb Optical Co. has come up with a microscope designed specifically for production-line assembly and inspection of transistors and other miniature electronic parts. The operator uses both eyes to see his work in three dimensions, with natural movements, and right side up.

Magnification can be adjusted from 6.6 to 150 times natural size. The eyepiece is inclined at an angle of 30 degrees—the position found to be most comfortable for the average operator. A large free area between the microscope base and the worker provides space for tools, trays, and jigs.

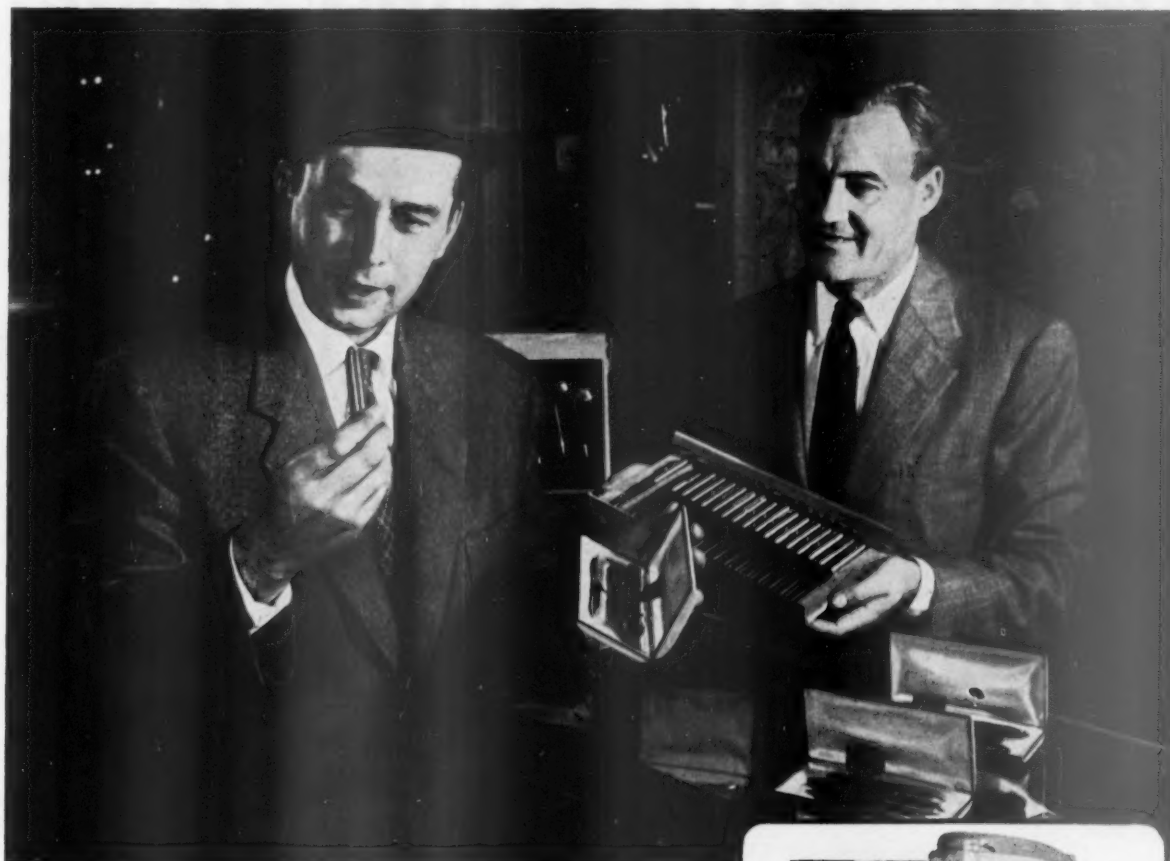
• Source: Bausch & Lomb Optical Co., 635 St. Paul St., Rochester, N. Y.

### A Scale That Counts

The high price of food is making highly accurate weighing equipment a must in food stores. When meat costs up to \$1.20 per lb., fraction of an ounce too much on each order could mean the difference between profit and loss for a retailer over the course of a year. The customer is also extra sensitive to short weight.

This week, Toledo Scale Co. is taking the wraps off an automatic scale after 17 years of tests and experiments. Once the scale has been set for a given price per lb., it weighs the order accurately to within an eighth of an ounce, prints a ticket showing exact weight,

# He's buying a pen...

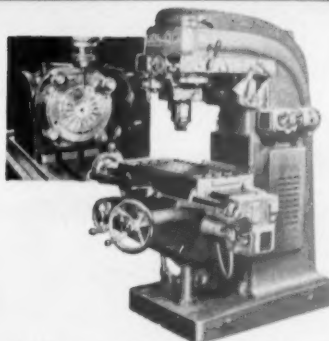


# he's helping to buy a machine tool — — —

**T**ODAY, writing instruments are being made and sold at a rate that would have been called fantastic ten years ago. The low prices that are the basis of this mass selling have been realized only through the economies of mass production. And of this price, however low, a small part helps buy the new, advanced *machine tools* that make possible further production increases . . . improvements on current models . . . even lower prices in the future.

It's the same story when people buy automobiles, furniture, clothing, appliances, canned foods and thousands of other items. Modern machine tools are always needed to build the equipment necessary to produce new products, and to meet the demands for better ways of producing established products. Thus, a small part of today's price of any product must help buy tomorrow's machine tools.

In 55 years, Kearney & Trecker have produced more than 60,000 standard and special machine tools . . . to simplify methods and increase production for manufacturers . . . to make better products at lower cost for consumers. If you use machine tools, it will pay you to have Kearney & Trecker analyze *your* machining operations.



An exclusive Kearney & Trecker development, this new machine serves America's pen and pencil makers . . . producing dies and molds to tolerances as fine as 5/10,000ths of an inch. It has eliminated many production steps and reduced costs. It has helped make possible more and better fountain pens at lower prices, and increase both sales volume and profits. *Another example of how Kearney & Trecker machine tools pay off for manufacturers.*



**KEARNEY & TRECKER**  
**MILWAUKEE**  
**MACHINE TOOLS**

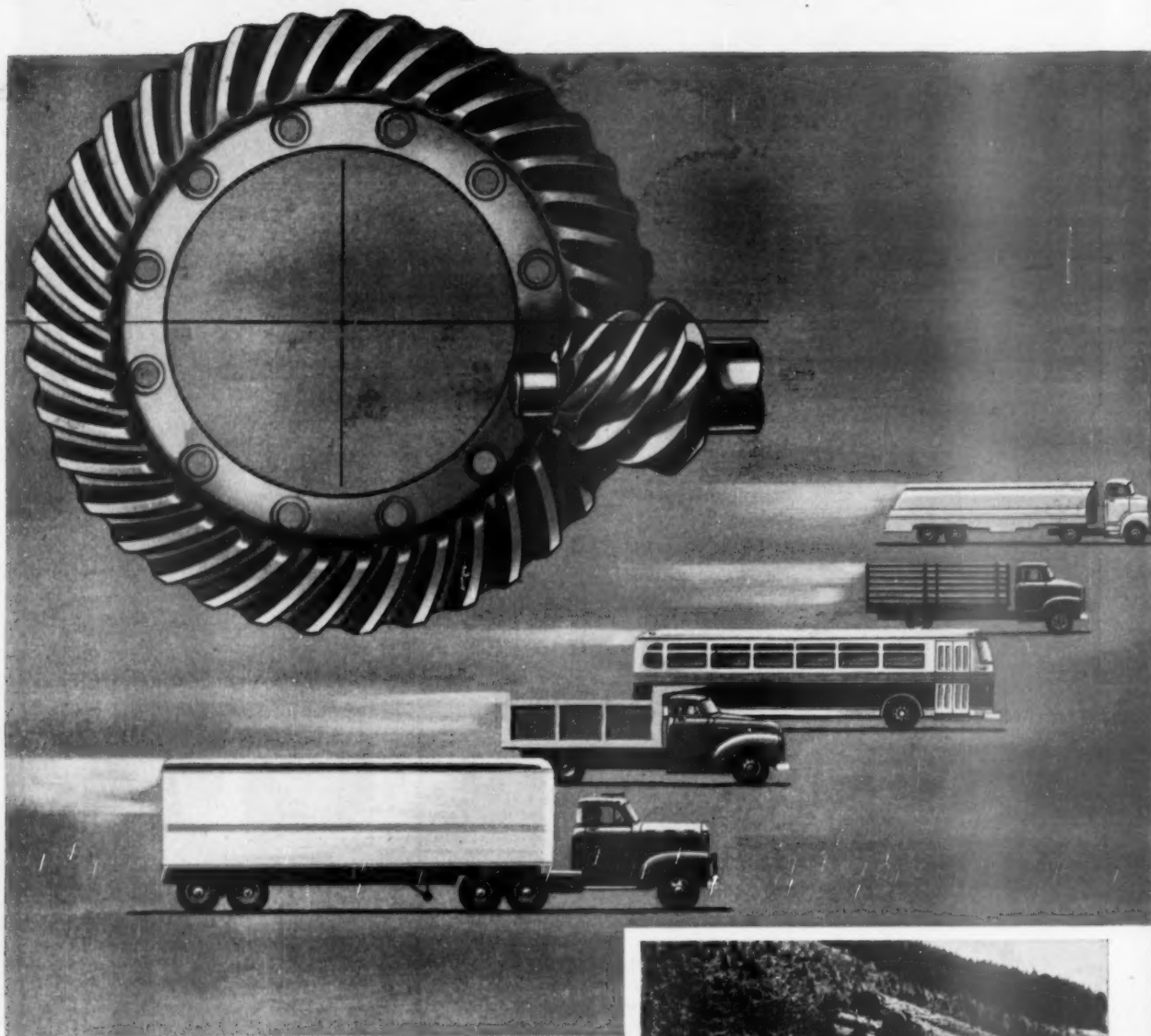


**KEARNEY & TRECKER CORPORATION • Milwaukee 14, Wis.**

*Builders of precision and production machine tools — Since 1898*



# *MORE MILES - MORE YEARS*



The Hypoid pinion is offset from the center line of the gear. It is bigger and stronger. Bearings are bigger. More teeth are in contact, reducing loading per unit of contact area. Torque transmitting capacity is increased. Slower gear ratios are practical without loss of strength.



If it's a job for trucks, it's a job for TDA! From tough, off-road logging operations like this to the delivery of produce at your neighborhood grocery, TDA is helping to speed the flow of goods all over the world.

# WITH *HYPOID* GEARS!

**Fleet owners and small truckers alike are taking advantage of the advanced engineering and built-in dependability of modern TDA axles to make their vehicles last longer—require less maintenance**

Without a doubt, today's most versatile vehicle for hauling goods is the motor truck. It can travel on or off the road and reach many places inaccessible to other forms of transportation. This outstanding ability is due, to a large extent, to the modern axles that carry, move and stop the load.

TDA, during nearly a half-century of designing and building heavy-duty truck axles, has pioneered and developed a host of major improvements that help trucks perform better, last longer and operate more

economically. The most notable of these is Hypoid gearing. Proved by billions of ~~ten~~ miles of actual operation, Hypoid gearing offers the slower gear ratios necessary for today's high-speed, high-powered engines. Its strength and rigidity enable trucks to stand extra miles of extra-hard service. Equally important, TDA has engineered Hypoid gearing into a complete line of axle capacities—including single-speed axles, two-speed axles and tandem-drive axle units.

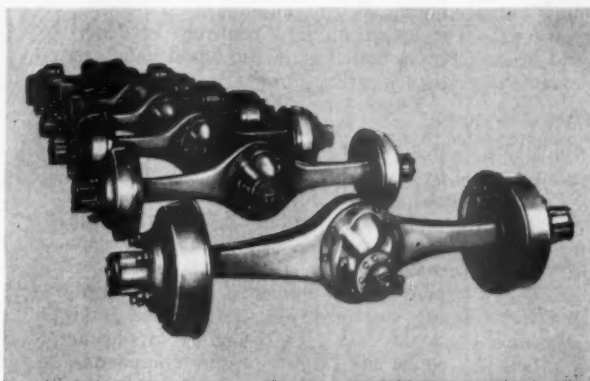
No wonder so many leading truck manufacturers—and users—make sure their trucks are TDA-equipped!



**Timken-Detroit Axle Division • ROCKWELL SPRING AND AXLE COMPANY**  
Detroit 32, Michigan

**WORLD'S LARGEST MANUFACTURER OF AXLES FOR TRUCKS, BUSES AND TRAILERS**

PLANTS AT: Detroit, Mich. • Oshkosh, Wis. • Utica, N. Y.  
Ashtabula, Kenton and Newark, Ohio • New Castle, Pa.



TDA builds the world's only "family" of advanced-related design rear driving axles. Seven basic capacities cover the range of medium and heavy-duty requirements—have the same features of construction and parts interchangeability.



Your public transit system is a ready weapon against traffic congestion. One average bus can replace as many as 35 automobiles—helping to reduce the congestion of *your* city's streets easily and economically. Do your part by using your public transit system. It's convenient and thrifty!

# Whether your business needs \$25,000 or Millions ..... get in touch with Commercial Credit .....

**I**F INADEQUATE working capital is curtailing your progress and restricting your profits—if doubts about continuing available funds are hampering or delaying plans for your future, get in touch with **COMMERCIAL CREDIT**.

**COMMERCIAL CREDIT** assures you quick action—funds usually available in 3 to 5 days—no matter where you are located in the United States. You enjoy all the advantages of taking in partners or selling stock—without the disadvantages. No interference with ownership, management or profits. You pay no preliminary charges. Your cost is further minimized because you pay only for the money you use as your need varies. The single **COMMERCIAL CREDIT** charge is a tax deductible expense. Once set up, the plan functions automatically for months or years.

Manufacturers and wholesalers are using **COMMERCIAL CREDIT**'s method to supplement operating cash at the rate of **600 MILLION DOLLARS** this year. We'd like to send you complete facts about the advantages this method offers your business. Write or wire the nearest **COMMERCIAL CREDIT CORPORATION** office listed below and say, "Send me information about plan offered in *Business Week*."

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SAN FRANCISCO 6—112 Pine St.

**A Service Available Through Subsidiaries of**  
**COMMERCIAL CREDIT COMPANY**  
**Capital and Surplus Over \$135,000,000**



**Cash Quickly**, usually in 3 to 5 days no matter where you are located in the U.S.



**Funds Continuously** available for months or years without calls or renewals

price per lb., and the value of the item.

The new scale, called Valueprint, stands about 22 in. high and occupies about 18 in. by 19 in. of counter space. Full production is expected late in November, with the greatest use of the machine likely to be in prepackaging departments.

The machine assures that retail weights will be documented beyond chance of human error. Neither the clerk nor the prepackaging operator has to read, remember, or record the data. The automatically printed weight and price give an undisputable record alike for customer and merchant. Coded figures show the merchant the day of packaging, and there's space for his name and one-line message.

• **Source:** Toledo Scale Co., 1009 Telegraph Rd., Toledo 1, Ohio.

• **Price:** About \$1,750.

## Paints For Hot Places

Sherwin-Williams Co. is taking the wraps off two new industrial paint products as a result of the fire that destroyed General Motors Corp.'s transmission plant last month. The first is a water-reducible, high-gloss enamel, which will char under a blowtorch but won't burn. The other is a new, cheap silicone coating—for use on such products as ovens, where the surface must withstand high temperatures for long periods of time.

• **Emulsion**—The new water-reducible enamel is designed for the metal fabricating industry, where chemists for years have been trying to find a way to avoid using highly inflammable paint thinners. The materials used in the new product are the same as in conventional industrial enamel coatings. The main difference is that S-W chemists have hit on a way to emulsify the product in water.

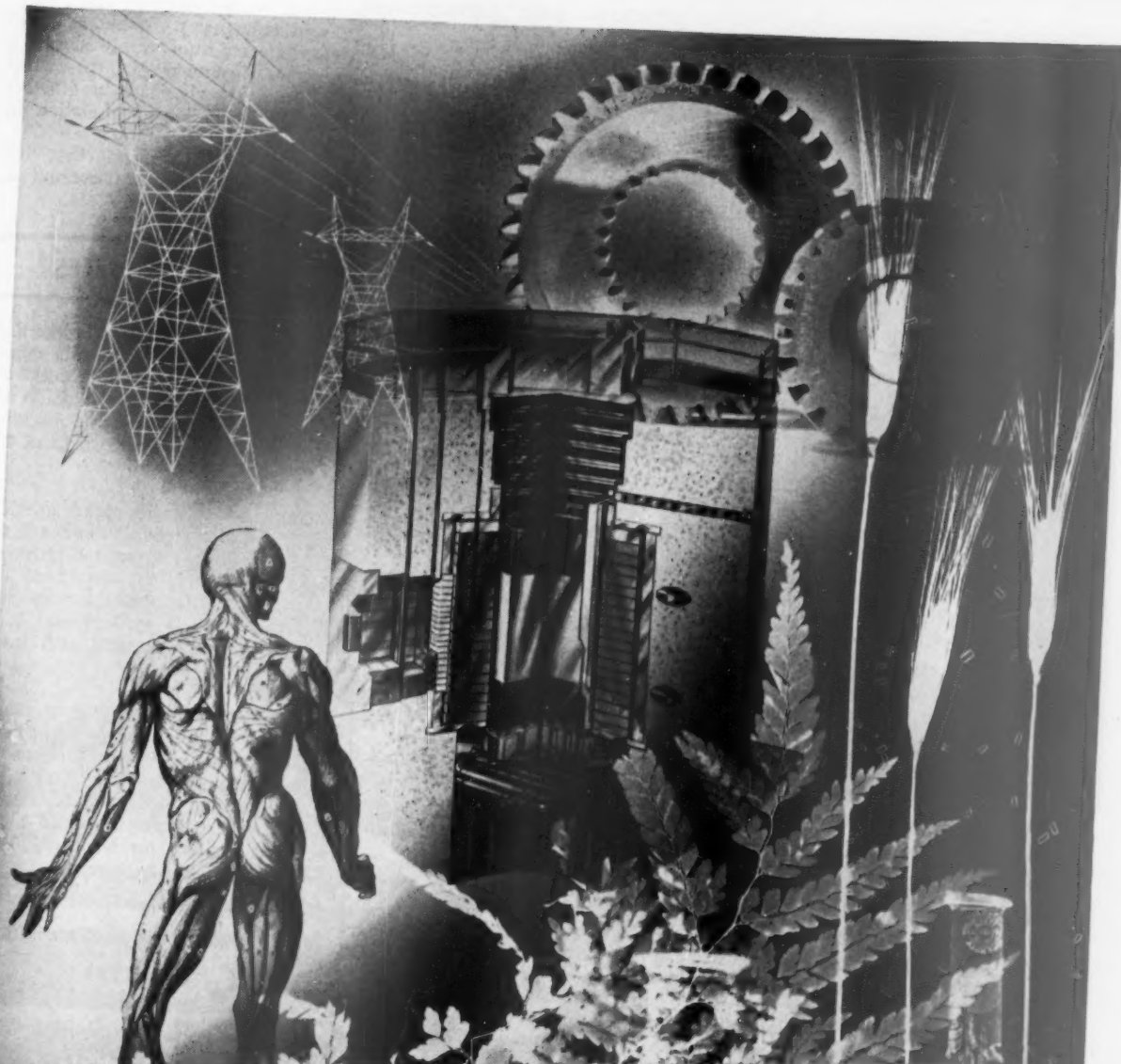
An emulsion differs from a solution. When you dissolve something, it breaks up into micro-molecular particles—in effect, loses its identity in that of the liquid. When you emulsify something, it breaks up into relatively large particles that float in the liquid and keep their identity.

That's why Sherwin-Williams calls its new paint water-reducible rather than water-soluble. Once it's applied to a surface, dried, and baked on (at about 300F, for 18 minutes), it won't wash off in water. And neither the thinner nor the dried paint will burn.

• **Long-Term Resistance**—The company's other product is aimed at resisting sustained heat rather than accidental fires. It's composed of silicone resins and other inorganic compounds, it's said to be durable, nonchipping, and nonyellowing under sustained temperatures above 500F. It will cost about half as much as an all-silicone finish.

Their new finish is aimed at wall





## **NORTH AMERICAN PUTS ATOMS TO WORK FOR YOU**

North American Aviation's atomic research and development began in 1946. Already this work for the Atomic Energy Commission is opening new horizons toward the peaceful use of this most powerful energy source yet revealed to man. North American's accomplishments in atomic energy work include:

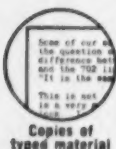
1. Design, construction and operation of a water boiler type reactor producing neutrons for research and development work for all types of reactors.
2. Design and construction of research reactors for research, medical and industrial uses.
3. Designs and component development for plutonium and power producing reactors.
4. Evaluation of economics of atomic power plants utilizing uranium and thorium.
5. Nuclear physics experiments with reactor components.
6. Development of reactor safety devices and low cost chemical processes.
7. Experimentation with reactor materials.
8. Design and development of a pilot plant suitable for construction to determine basic operating characteristics as a step in the development of economical electrical power.

Through projects like these, North American's engineering team—one of the nation's largest groups of outstanding scientists and engineers—is helping to develop new peaceful, productive uses for atomic energy that will serve man and the nation for years to come.

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and space heaters, deep fry units, roasters, and industrial parts. Sherwin-Williams engineers think it will allow for big savings: Customers using the enamel will be able to eliminate heat baffles and a great amount of insulation in their products.

• Source: Sherwin-Williams Co., 101 Prospect Ave., N. W., Cleveland 1, Ohio.

### NEW PRODUCTS BRIEFS

A tobacco harvester, said to be the first produced commercially in this country, was demonstrated last week by Long Mfg. Co. of Tarboro, N. C. With a seven-man crew aboard, the machine can harvest 800 to 1,000 sticks of tobacco per day.

Miniaturization, a big trend in electronics these days, got a boost last week. General Electric's Capacitor Dept. at Hudson Falls, N. Y., announced development of a tiny tantalum capacitor condenser. It's  $\frac{1}{8}$  in. long and  $\frac{1}{16}$  in. in diameter, will be used with transistors.

A granular fertilizer for corn, small grains, fruit, and truck crops is being introduced by Nitrogen Division of Allied Chemical & Dye Corp. The firm, pellet-like material contains about four times as much nitrogen as conventional general crop fertilizers. Allied Chemical gets the high analysis by substituting nitric acid for sulfuric acid.

A horizontal furnace with automatically controlled temperature and atmosphere has been introduced by Leeds & Northrup Co., 4908 Stenton Ave., Philadelphia 44, Pa. It combines in one unit a heating chamber, a quench tank, and a protective-atmosphere vestibule. From the time a load enters the furnace until it leaves the quench, it is never exposed to air.

An index drilling machine developed at Wichita (Kan.) Division of Boeing Airplane Co. locates and drills pivot holes for rivets in structural parts of B-47 Stratojets at the high rate of 180 holes per min. It has proved so successful that Boeing has licensed Hufford Machine Works, El Segundo, Calif. to manufacture it commercially.

A blonde hardboard with decorative grooves pressed into it at time of manufacture has been developed by Chapman Mfg. Co., Corvallis, Ore. The new product takes a wide variety of stained colors or paints. It's expected to open the way for many architectural and decorating uses, both interior and exterior.

# Here comes

10 PAIRS OF NYLONS

1 TELEVISION  
CABINET

1 GALLON OF DDT

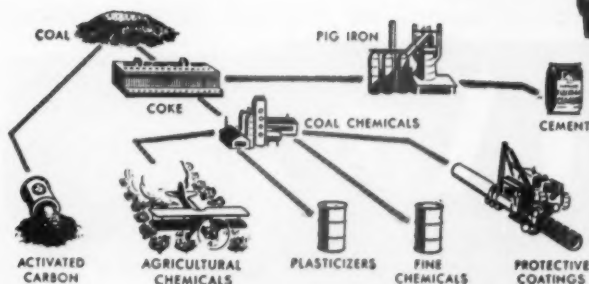
10 VITAMIN CAPSULES

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25 LBS. OF FERTILIZER

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# SPECIAL REPORT



**BUSINESS WEEK Reports to Executives on Natural Gas. It's a Study of the . . .**

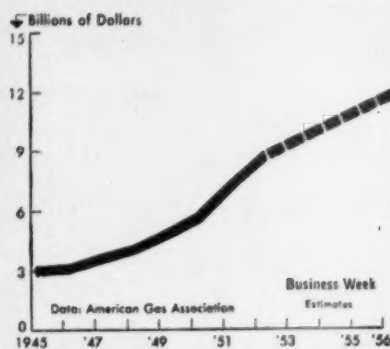
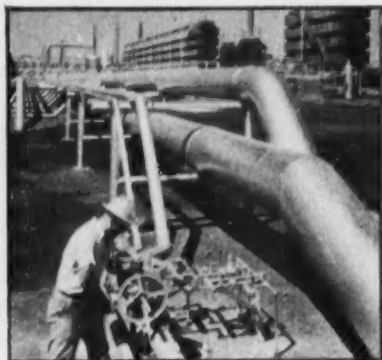
## Economics of a Growth Industry

Wonder fuel. Most versatile of raw materials. A paradise for promoters. A growth industry that investors love—and in which they have put billions.

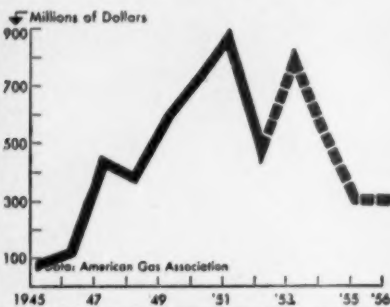
Natural gas has been called all this—and much more. It is one of the handful of new expanding industries that

have supercharged the postwar boom. It is the building block that is the key to thousands of chemicals—from ammonia to plastics.

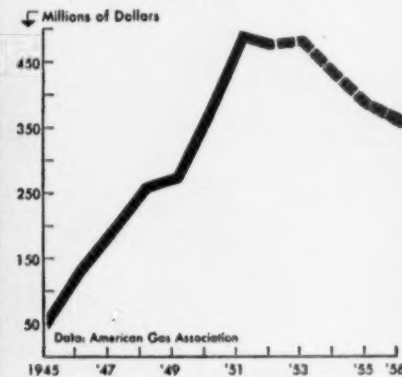
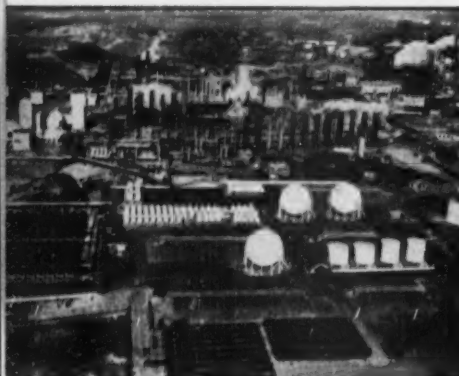
But natural gas has a future at least as glittering as its past. For a look into that future, turn the page.



**GROWTH** in natural gas seems never-ending. Industry now has tapped most major markets in the U. S. with pipelines. But it will continue to grow . . .



**PIPELINES** are about built, however. After this year, the industry estimates, there'll be much less money going into them. Instead, forecasts show . . .



**PLANTS** for processing gas, underground storage, distribution systems will be a continuing major concern for the industry. They'll be needed for . . .

**GROWTH IN USE** The U. S.' use of natural gas

## Natural Gas: Growing Fast in Fuel and

Three years ago, BUSINESS WEEK ran a special report to executives on the natural gas industry (BW—Sep. 30 '50, p75). At the time, it was one of the fastest growing industries in the country and the pet of Wall Street.

Today, the industry is three years older, a lot bigger, and still cracking records. Statistics tell part of the story of spectacular growth and profit. Between 1950 and 1952 the industry increased its plant assets by 50%; it sold 27% more gas to 29% more cus-

tomers. And 1953 is doing nothing to spoil the growth record.

• **Risky Business**—This is a glamor industry. On the production end, it is tied closely with its big brother, oil, and shares the hazards and fat returns of the wildcat strike. On the distribution end, it's a regulated utility held to a regulated rate of return.

Its executives have helped bring the promotion touch back to big industry—for promotion is a must for most pipeline men. It takes big chunks of

money and talent to get a \$150-million-plus pipeline under the ground—and both have to be laid out with a big risk of getting no return at all.

• **Invisible Product**—The industry's product is an invisible one. You can't see it and you can't smell it—yet it supplies close to 25% of the country's energy. Mileage of natural gas lines, mostly laid under ground and under water, far exceeds the mileage of railroad tracks in the country.

The industry, basically, is divided



began to soar 20 years ago—and the growth goes on. Federal experts in the Petroleum Administration for Defense see it hitting 11-trillion cu. ft. a year before long. Over a longer term, production is expected to reach 15-trillion cu. ft.

## Chemicals

into three parts: production (getting the gas out of the ground), transmission (sending it through the pipeline), and distribution (final sale to the consumer). Sometimes the same company does all three things. Usually, though, the functions are split, with the pipeline company buying most of its gas and selling it to distributors.

• **Competition**—The industry's economics are an economist's nightmare. Gas is usually found by people hunting for oil. Yet the two fuels often wind

up in competition with each other. In fact, gas can wind up in competition with itself.

Take this case. Liquefied petroleum gas (LPG) comes from natural gas. But in certain areas it competes with natural gas as a fuel—in fact, LPG starts losing customers whenever natural gas comes into a town. And on the farm, LPG, a constituent of the natural gas that's found in the search for oil, competes with gasoline as a motor fuel.

Gas is considered a byproduct of the search for oil—and in terms of value to the company that produces both, that's just what it is. Yet the energy equivalent of the gas found is usually higher

than that of the oil. More and more oil companies are spending millions of dollars developing strictly gas fields—something that was unheard-of years ago.

### 1. Building a Pipeline

In the whole natural gas industry there is probably nothing more exciting or fast-paced than the creation and construction of a long-line transmission company.

If you have the know-how, can tap ample quantities of money, will work like blazes, and are a natural-born promoter, you may end up with millions—



## The **SAFE** Pavement is Concrete

Your motoring safety depends mainly on you, your car, the design of roads and streets and type of pavement. You are directly responsible for your driving and your car's condition. You do not design or build roads and streets, but you do have a voice in selecting the pavement.

Your license fees, gas and other taxes pay for building and maintaining roads and streets. *This is your money.* You have a right to insist that officials who select the pavement invest your money in the safest possible type. That's concrete. Here's why:

### BETTER NIGHTTIME VISIBILITY

Concrete's light color reflects up to four times more light than dark-colored pavements. That enables drivers to see curves, obstructions, pavement edges, animals or pedestrians sooner and more clearly and to slow down or stop safely.



### EVEN-RIDING SURFACE

Rigid concrete pavement retains its low crown and even surface throughout its long life. It stays free from such driving hazards as ruts and washboard wrinkles and it does not develop surface irregularities that require frequent patching.

### "BUILT-IN" SKID RESISTANCE

Concrete's gritty texture grips tires tightly, assuring drivers of uniformly good traction. This permits fast, safe stops without swerving or skidding, even though the pavement is wet. Concrete cooperates with tires and brakes.



## PORTLAND CEMENT ASSOCIATION

A national organization to improve and extend the uses of portland cement { 33 W. Grand Ave.  
and concrete through scientific research and engineering field work { Chicago 10, Ill.

## SPECIAL REPORT

or you may wind up with nothing.

The crucial thing you have to get is Federal Power Commission approval for your scheme. But convincing FPC takes plenty of time and money—and the competition is terrific.

• **Details**—In making your bid you have to put everything down in black and white beforehand. You have to be able to show FPC just where you're going to get the gas—not for two or five years, but for 20 years. You have to tell the commission where you're going to build your pipeline—and prove that you can do it. You have to have your markets and distributors all lined up, and tell FPC in advance how much you're going to charge for the gas. You have to show, in detail, where you're going to get your financing.

These preliminaries can take a year and a half or more. Then—too often—you find another group has been going over the same ground you have. Actual hearings before FPC can take years; the more groups competing, the longer it takes. In the meantime, your options with producing companies and distributors may lapse; other groups are already approaching these companies. You may have to start all over again.

• **Promoting a Deal**—Almost every pipeline that has come into being in the last 10 years has been well promoted. The promoter is an essential. He may be a lawyer, gas expert, engineer, or banker, but there's always somebody building up enthusiasm for the project and tying the thousands of loose ends together.

Helping the promoter is the working team or operating group—the men with the technical and administrative know-how. This usually includes lawyers, engineers, administrative men, geologists, and one or two investment experts.

• **Splitting the Work**—Each has a niche on the team. The investment man has to know where to find insurance companies that will put up the money for a \$100-million bond issue, or where the common stock can be underwritten. The lawyer's job is to untangle all sorts of red tape, to spend weeks at hearings and examinations.

The gas reserve expert is a key man, too. He's the one who estimates gas reserves, figures out where gas can be bought and what it should cost. The engineer has to worry about building a thousand miles or more of pipe at, say, \$125,000 a mile, and how best to push millions of cubic feet of gas through the line each day.

• **The Reward**—Often, members of the working team don't get paid right away. They take common stock instead. Then, if the company gets FPC approval, they may put in a bill for their services.

This "working team" is balanced by the "financial group." This could

*If you have a temperature  
control problem*

**THE Automatic ANSWER IS...**

#### JOHNSON EXPERIENCE

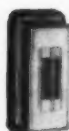
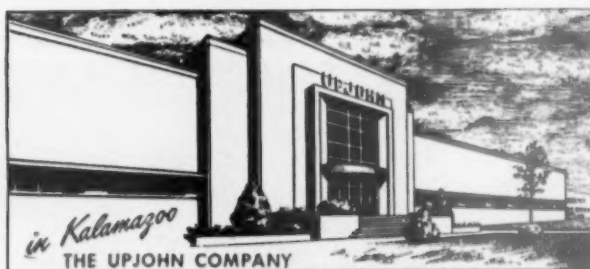
The really tough jobs of temperature control go to Johnson. For instance, in the famous pharmaceutical plant sketched above, Johnson Automatic Control regulates the most intricate air conditioning installation in the world.

#### PLANNING FOR THE PURPOSE

For over 60 years, Johnson has manufactured, planned and installed every one of its systems to meet the individual requirements of each specific job. The results speak for themselves for, wherever you go, in buildings everyone knows, the choice is Johnson Control . . . in countless industrial plants, office buildings, hotels, schools, hospitals, theaters, department stores, apartments, commercial and public buildings.

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Let an experienced engineer from a nearby Johnson Branch prove to you the advantages of Johnson Control for your building. Johnson Service Company, Milwaukee 2, Wis. Direct Branch Offices in Principal Cities.



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MANUFACTURING • PLANNING • INSTALLING • SINCE 1885 *Air Conditioning* **CONTROL**





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Dun & Bradstreet Magazine

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South Carolina  
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# South Carolina

WHERE RESOURCES  
AND MARKETS  
MEET

## SPECIAL REPORT

include local bankers, or investment houses, or just wealthy people who are looking for a "good thing" and are ready to supply the risk capital the project needs.

### II. Texas Eastern

There's nothing easy about getting a pipeline underway. But if you succeed, you're well on the road to a young fortune. A handful of men, starting with an idea and not much else, can build up a tremendous operation on an infinitesimal equity.

Texas Eastern Transmission Co., now one of the country's major pipelines, is an example of a very successful promotion. Texas Eastern operates a line from Louisiana to the New York area. Its pattern of development (barring the fact that it bought instead of built its pipeline—and that it got through with the preliminaries much faster than most) has been followed by many other firms.

• **Postwar Idea**—The idea for Texas Eastern was conceived in 1946 by two men. One was Charles I. Francis, a Houston attorney and an expert on the oil and gas industry. The other was E. Holley Poe, a natural gas consultant.

Both had heard that the government's Big and Little Inch pipelines, used during the war to pipe crude oil and products from Texas up to Pennsylvania and New Jersey, would soon be offered for sale. They figured that converting the lines to gas would open up a new market, and that a natural gas system might be a very successful venture. They decided to get together a group and bid for the lines.

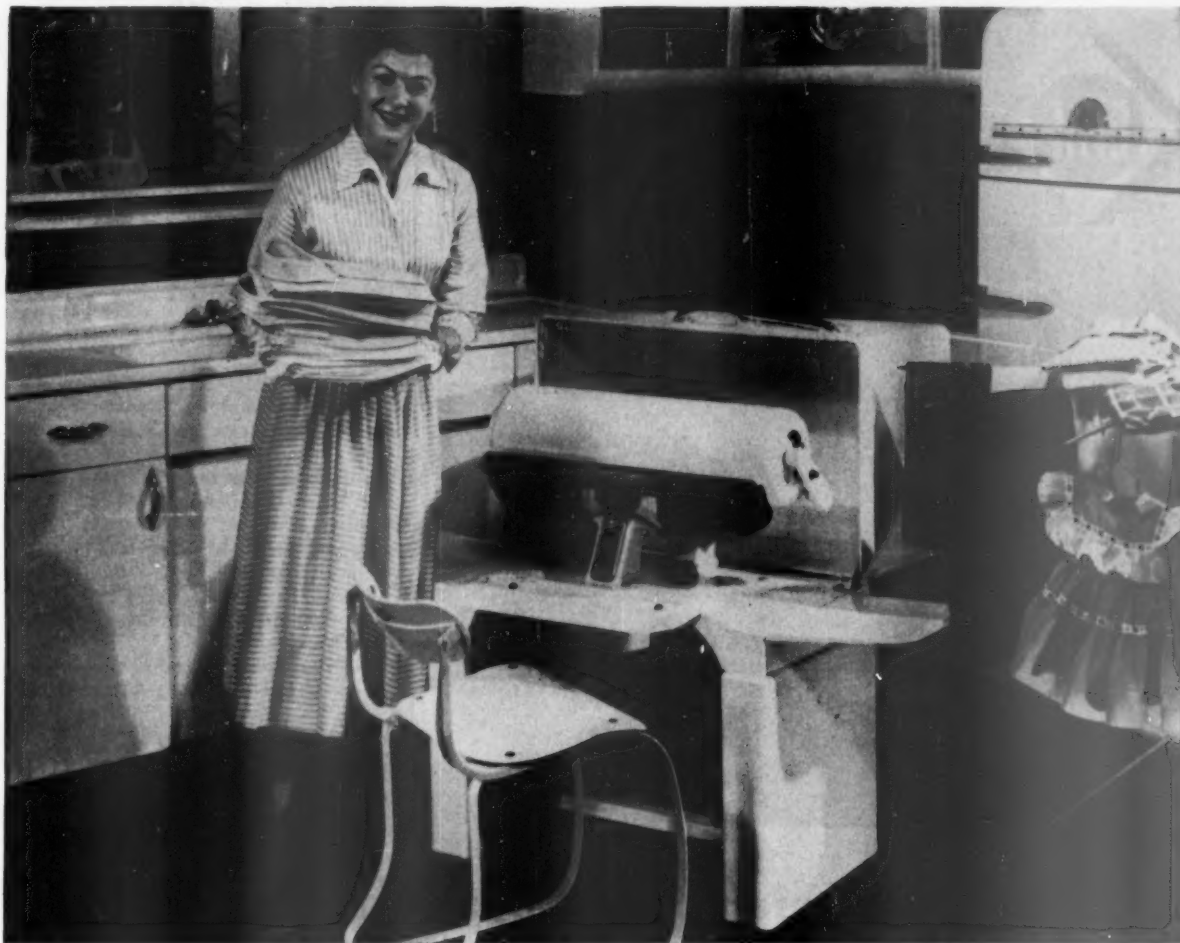
• **Choosing a Team**—Francis called Herman Brown, one of the owners of Brown & Root, Inc., a big Houston construction firm, and asked if he would help bankroll the project. Brown agreed. Meanwhile, Poe called his friend Everett L. DeGolyer, a well-known gas consultant, and asked his help. DeGolyer also agreed to come in.

One by one, the rest of the team was rounded up. Dillon, Read & Co., investment firm, was brought in. For their top management brains, the group got Reginald Hargrove, a vice-president of United Gas Co. A law firm joined in, and so did a few bankers.

The team added up to about a dozen people, each with know-how or money.

• **Financing**—It took the group a few months to prepare bids for the lines. Texas Eastern was incorporated in January, 1947. Capitalization was 250,000 shares of \$1 par value common stock. Separate subscription agreements were made with 28 individuals to buy 150,000 shares at par. The other 100,000 shares were never issued.

Herman Brown and his brother



Photograph courtesy of Ironrite, Incorporated, Mt. Clemens, Michigan

## A number of pleasant things happened

*... when the makers of the famous Ironrite Ironer switched from plain carbon steel to U.S.S. COR-TEN High Strength Steel*

The ladies who do their own laundry were delighted. The Ironrite management was happy, too, for here's what this change in steel has accomplished:

The Ironrite cabinet is sturdier, more durable and longer wearing because U.S.S. COR-TEN steel has a yield point 50% higher than carbon steel and offers much greater resistance to denting.

Ironer parts have a smoother, more even finish because COR-TEN steel offers much better adherence to baked enamel.

Lapboard and wings are stronger—yet weigh less than before—because the greater strength of COR-TEN steel makes it possible to use it in lighter gauges than carbon steel.

Costs for die maintenance are materially reduced. Dies wear longer, require less maintenance because U.S.S. COR-TEN steel is consistently uniform in quality and it flows smoothly and evenly in the dies.

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safer and more efficient . . . saved weight in trucks to increase payload capacity . . . made mine equipment and earth-moving machinery stronger and tougher. Farm tractors and agricultural implements, L-P gas cylinders, domestic water heaters and a multitude of other products last longer, weigh less, cost less to make, cost less to ship, and are easier to sell when they are made with U.S.S. High Strength Steels.

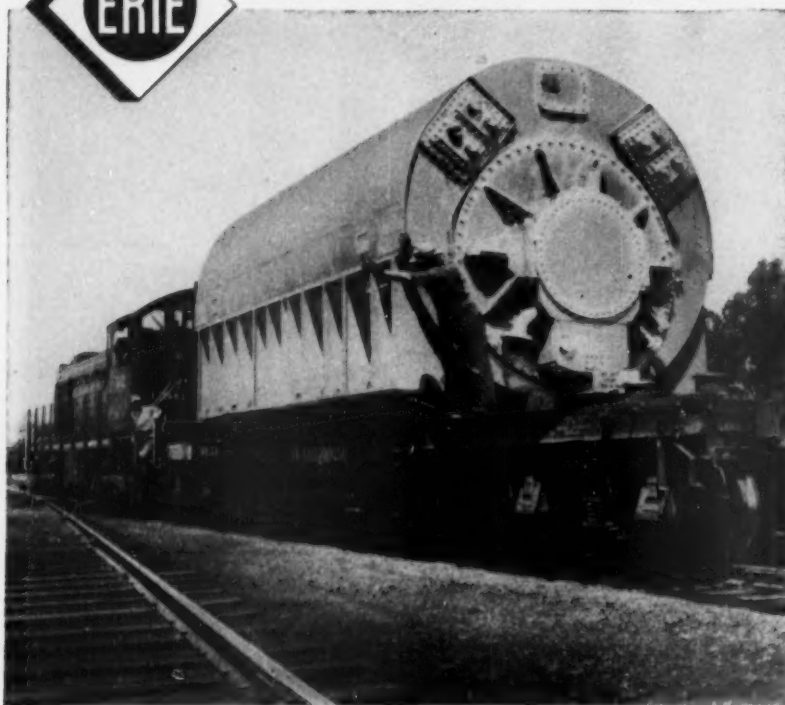
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## And still heavyweight champion!

● This giant dynamo stator, a real heavyweight tipping the scales at 456,000 pounds gross, is on its way to be installed in a distant power station. The route for such a shipment has to be planned with care, for not every railroad can handle an oversize shipment like this one.

For a long time now the Erie Railroad has been taking on all comers in the heavyweight class. That's because the Erie is famous for having the highest

and widest clearances of any railroad in the East, along with heavy-duty bridges and roadbed built and maintained to handle the heaviest loads with safety to spare.

These weight and size advantages and fine on-time performance make Erie the choice of shippers who want super service in freight transportation. For your next shipment call your Erie representative and "Route it Erie!"

## Erie Railroad

Serving the Heart of Industrial America



## SPECIAL REPORT

George were the biggest investors, with 21,375 shares each. Actually, they did most of the financing of the company. Nine men who purchased 67,500 shares borrowed the money from the Browns and pledged their stock as collateral for the notes.

• **High Stake**—In the bidding for the Inches, Texas Eastern was high bidder. The group came in with \$143-million, some \$12-million above the next highest bid. It gave the government one of the best war surplus deals ever swung; the two Inches had cost \$146-million to build.

At the time, Texas Eastern was taking a big gamble. Nobody knew if the war-built lines would hold up under the high pressures needed to push gas through. Engineers had nightmares about potential ruptures they'd have to deal with.

• **High Payoff**—By October, 1947, the company got FPC approval. In November, it reclassified the 150,000 shares of original stock on the basis of seven shares for one.

Soon afterward, it sold \$120-million in bonds to institutional investors and 3,550,000 shares of additional common stock to the public, at a price of \$9.50 a share.

So in less than a year the individuals who put up \$150,000 had some \$9,825,000 worth of profits. Each of their shares, costing \$1, had grown to seven shares worth \$9.50 apiece.

George and Herman Brown each had a profit on paper of \$1,400,062. DeGolyer had a profit of \$1,007,062. Francis, who had invested \$9,375, wound up with \$614,000, and Poe had \$712,000 in paper profits. In addition, the original group gained 22.52% of the outstanding stock and put itself firmly in the management saddle of a \$160-million company.

• **Plus Fees**—Most members of the original team also got paid for their services.

Hargrove became president of the company at a good salary; Francis became vice-president and general counsel. Brown & Root got construction contracts for 21 new compressor stations for the company. DeGolyer got paid for his work in helping estimate the company's gas reserves and in helping prepare its FPC application. Poe also got a good-sized fee for his services. Dillon, Read was employed as the company's agent in negotiation and sale of the bonds, and received a fee of \$200,000. It also served as manager for the group selling the company's stock.

And investors who bought stock at \$9.50 a share didn't do badly either. Texas Eastern stock is now quoted at \$17 a share.

• **Long Pull**—The group that put over Texas Eastern was paid handsomely for its risks and its administrative, financial,



# Floor plan for a warm winter!



**Somebody's** going to have a snug home this winter! No drafts, chilly floors or cold spots here. *This* home has Chase Copper Tube Radiant Heating.

**Chase Copper Tubes** hidden in the floor or ceiling radiate heat rays like the sun...give an all-over even warmth. And there's *no worry about leaks* because Chase Copper Water Tube plus Chase Copper Solder-Joint Fittings resist corrosion year

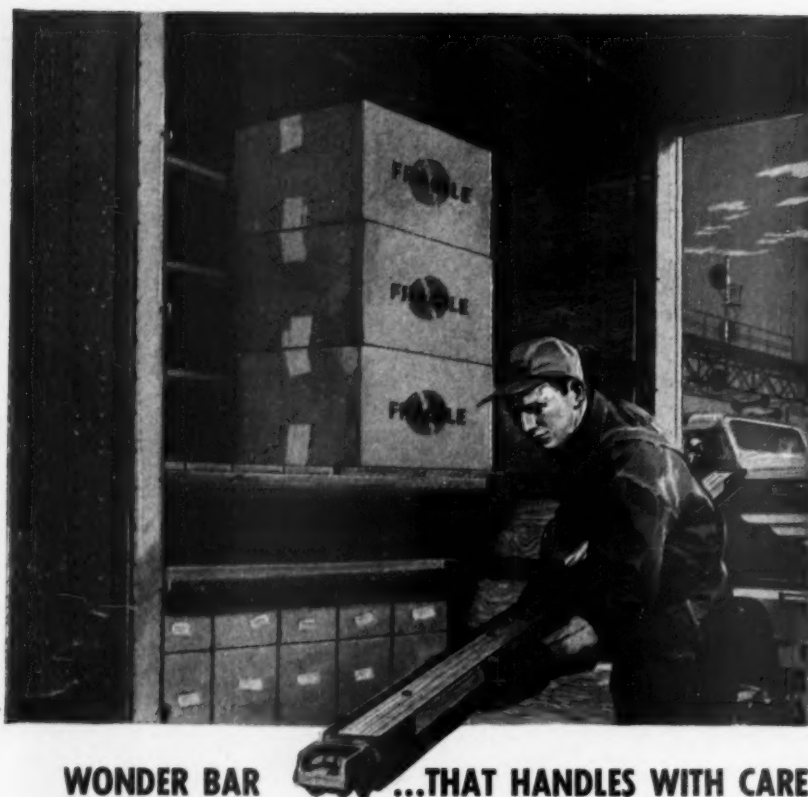
after year...cannot clog with rust.

**Chase** Plumbing and Heating Wholesalers across the nation supply Chase Copper Tube and Fittings to plumbing and heating contractors. They will be glad to cooperate with your architect or builder on the use of copper water tube for radiant heating. Chase Brass & Copper Co., Incorporated, Waterbury 20, Conn.

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Results? Shippers save millions by eliminating old-fashioned dunnage and the labor needed to install it. Railroads save more millions in damage payments, and in reduced damage to rolling stock. Further, cars equipped with DF Loaders earn more revenue; they are loaded heavier and turned around faster.

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## SPECIAL REPORT

and promotion talents. But there were plenty of risks involved.

Hargrove left a job with good pay and pension. Francis worked night and day for over a year and a half getting up the bids and FPC applications. At one point, Texas Eastern was stuck on a problem of eminent domain that only Congressional action would cure. The measure was introduced into Congress on the day before adjournment, and was passed by unanimous consent. Just one adverse vote would have killed it—and the pipeline. There were plenty of other narrow squeaks.

### III. Expanding Market

The blue-ribbon demand for natural gas is for home heating—and here the sky's the limit. Residential use is increasing much faster, percentagewise, than any other. The reason is obvious. To the homeowner, gas looks like the ideal fuel—underpriced in relation to oil and coal, and with the added advantages of being clean, convenient, dependable, and requiring no storage.

The demand for gas as a heating fuel is so high that one Ohio natural gas utility reports a waiting list of 70,000 householders for gas heaters. In Chicago, over 135,000 names are on file from consumers who want natural gas heating.

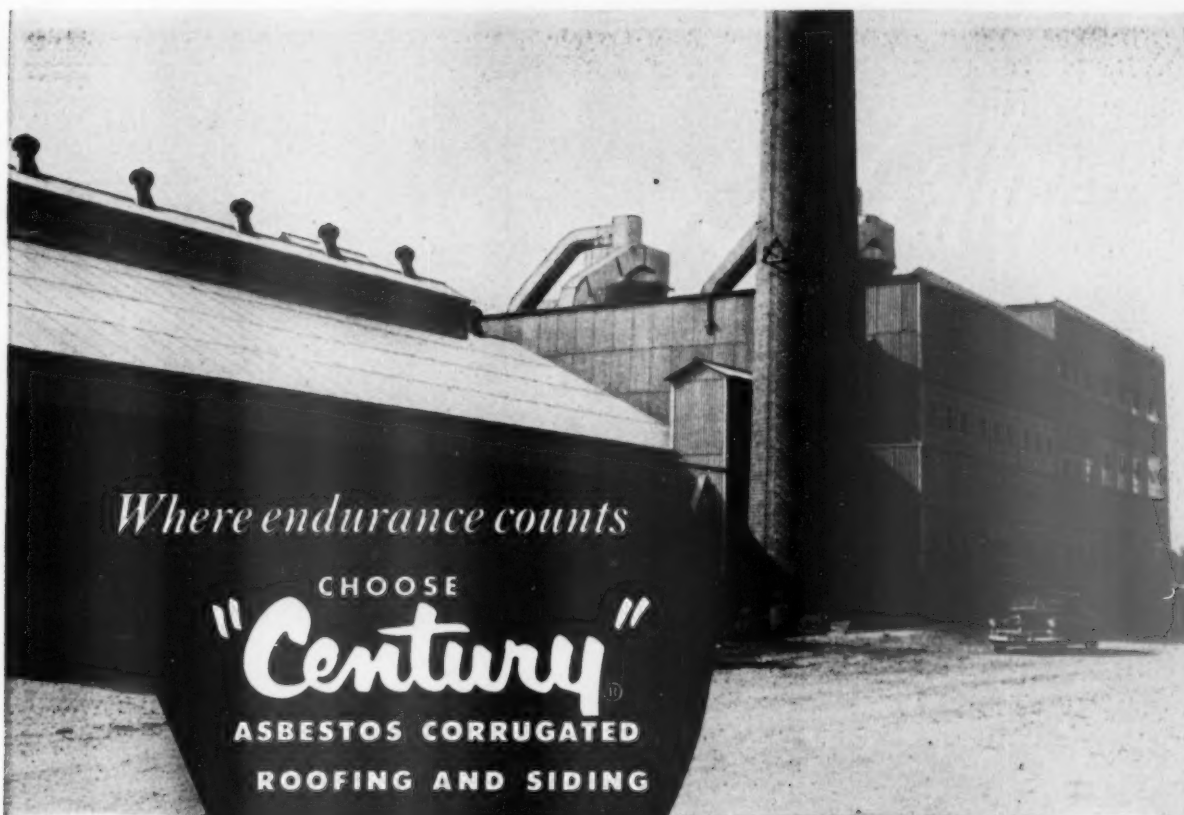
Gas is changing the country's home heating pattern. Natural gas will heat 69% of the Public Housing Authority projects to be started this year. Even in the big coal-producing areas, such as West Virginia, it's in high demand for home heating.

• **Price Edge**—The price advantage of gas is its big ace in the hole. It can be delivered in almost any part of the country cheaper than oil or coal. A recent report on home heating in a dozen cities showed that costs of stoker coal and No. 2 fuel oil ranged from 107% to 254% above the cost of natural gas.

Industrial uses still take the lion's share of the natural gas produced and sold, but the lion's share of the bill goes to the homeowner. The gas that goes into a man's home for \$1.50 an MCF (thousand cubic feet) may cost a nearby industrial plant only 30¢ an MCF. The gas is the same, but the type of service is very different.

The homeowner pays for standby service. Although his winter demand is sometimes four and five times his summer demand, he can get deliveries at a maximum rate whenever he wants.

On the other hand, industry, by and large, gets gas on an interruptible basis. Although supply doesn't get interrupted very often, it can be cut off from industry any time residential demand in the area gets too high. The fact is, it pays the pipeline or distributor to sell



City of Houston North Side Sewage Sludge Disposal (by fertilizer production) Plant, roofed and sided with "Century" asbestos corrugated. General Contractor: Rust Engineering Company, Birmingham, Alabama; Roofing and Siding Contractor: Standard Asbestos Mfg. & Insulating Company; Engineers: J. G. Turney, Houston, Texas, associated with Greeley and Hansen, Chicago, Ill.; Design Engineer: William E. White, Houston, Texas.

Long, long, trouble-free service is a feature of "Century" asbestos corrugated that makes it the ideal roofing and siding for many types of structures.

"Century" corrugated is made from asbestos fiber and portland cement, and so combines the advantages of both materials. It is strong, dense and tough. It *cannot* burn, rot, or corrode. It resists weather, vermin, and insects. And—here's an especially well-liked feature—it needs practically no maintenance during its long life, and it *never* needs protective paint. But that's not all!

"Century" asbestos corrugated is made in standard length sheets up to 12 feet

that are easy to handle and store, easy to cut and fit, easy to erect. When TOPSIDE\* Fasteners are used, no scaffolding is needed within the building, thereby saving additional time and money.

All these outstanding advantages make long-lived "Century" asbestos corrugated sound like a premium-priced building material. Actually it is one of the most economical materials you can specify!—low in application cost, low in maintenance expense.

Before you build, modernize, or expand a plant, get all the details on "Century" asbestos corrugated! We shall gladly send you complete information.

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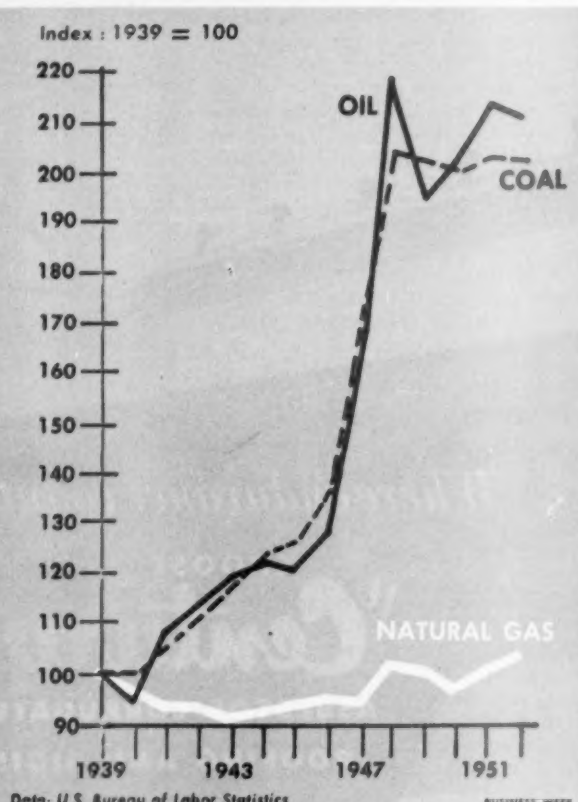
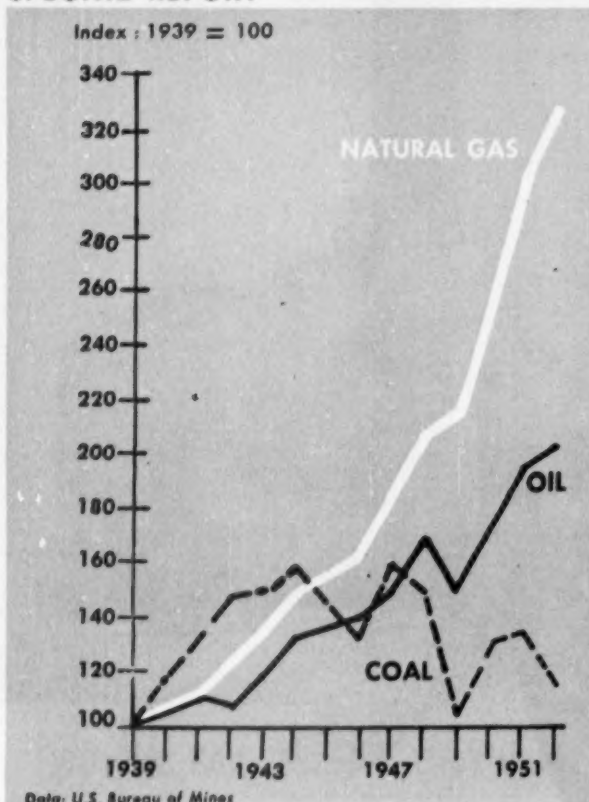
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**RATE OF GROWTH** figures show natural gas soaring. One reason is . . .

interruptible gas to industry at dump rates. Once the pipeline is there, it costs very little more to send the extra gas through.

• **Rate Increases**—One result of the increased demand for gas is that, after years of rather static prices, gas is beginning to cost more at the wellhead. According to one estimate, it has gone up 20% in the past two years.

What does this price rise mean as applied to the consumer? To get an answer, you have to do some tracing through gas economics.

Basically, an increase in field prices doesn't mean much as you get farther and farther from the production end. In Texas, gas may cost a consumer 65¢ per MCF. In Brooklyn, the price may be \$1.50 or more per MCF.

• **Cost Analysis**—Many consumers don't realize it, but the principal cost of gas is not the gas itself but its transportation and distribution cost.

Take gas that costs 75¢ per MCF in the home. The pipeline might have paid 6¢ for that gas, and transported it for 22¢. The rest of the cost is in distribution—with a whacking big part of it resulting from the necessity of providing standby service. So a relatively large increase in price at the wellhead

can mean only a very small percentage of increase at the consuming end.

• **Storage**—A relatively new development in the natural gas industry may help the consumer. That's the increased use of underground storage, at the distributing end, to help meet peak demand. During off-peak periods, gas is pumped in from the producing areas; it is withdrawn when the load on the trunk lines becomes heavy. This helps equalize the year-round load on the pipes and saves making large outlays for additional pipe where the full capacity isn't often used.

• **Prospect**—From all indications, residential users will stick with gas—and continue to flock to gas—for a long time to come. Even when gas reaches the price of oil or coal (or even goes 10% higher) experts say it will still be favored because of its other advantages.

But that doesn't mean that gas can't get too expensive. It's already getting price competition for industrial uses—particularly in Eastern seaboard cities, where oil can be tanked in at low cost.

The industrial gas user doesn't choose his fuel on such considerations as convenience and cleanliness; it's almost strictly a matter of price. Many industrial firms are geared to switch

**PRICE** Wholesale prices of natural gas have been stable since 1939 while prices of competing fuels have doubled.

easily from oil to gas, or vice versa. When the price of the rival fuel gains an advantage, the plant just converts its boilers.

#### IV. Producers Worry

As industries go, the natural gas people probably have as many headaches as any other—maybe more, since their business still has growing pains.

• **Worry No. 1**—Federal regulation of the pipelines, and the threat of such regulation over producers, are the industry's biggest worry today.

The shadow of FPC control over the price of gas at the wellhead has long hung over oil and gas producers. A year or so ago, most of them thought that the FPC had given up any plans to control the producing and gathering end of the industry. In fact, FPC has said it doesn't believe it should regulate gas sales at the wellhead.

However, last May, the U.S. Court of Appeals reversed a FPC ruling that Phillips Petroleum Co. was not a natural gas company and not subject to FPC rate fixing. In effect, the court made Phillips subject to the same regulations as the natural gas pipelines.

The Phillips case was a test. Plenty



# Galloping Ghost Gallops Again!

*The original Galloping Ghost does the honors, as All-American Red Grange christens No. 77, the Burlington's hot-shot Chicago-Kansas City freight.*



**Burlington's Galloping Ghost on the \$16,000,000 Kansas City Short-Cut—the shorter, straighter, smoother route between Chicago and Kansas City.**



Just a year ago, the Burlington introduced No. 77—one of many fast diesel-powered Burlington freight trains. Sensing the romance of No. 77's magic numerals, the public nicknamed the train "The Galloping Ghost." Then Red Grange—the original No. 77 and the original Galloping Ghost of the Illini—smashed the traditional bottle, and the name became official.

In its first year, No. 77 has achieved an outstanding record of dependable on-time performance. It provides overnight freight service second to none between Chicago and Kansas City—with time-saving morning connections for Oklahoma, Texas and the Southwest. Now more and more shippers are specifying . . . "Between Chicago and Kansas City, route it via Burlington—on the Galloping Ghost!"

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**Substations are basically simple,** however. They form an important link in the chain of safe and economical electric power distribution. Here, high-tension power, which has been transmitted over miles of cable, is received and lowered in voltage to be distributed and used locally. The towering superstructures serve merely to support and separate all necessary switches and overhead cables.

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## SPECIAL REPORT

of other companies are in the same boat as Phillips. Humble Oil & Refining Co., Texas Co., Shell Oil Co., and dozens of others sell gas to interstate pipelines. There are also thousands of independent producers (of gas alone) who sell to interstate carriers. If the court's decision sticks, it means Phillips and the others will be classified as natural gas companies under the Natural Gas Act, and the FPC will set the rates at which they can sell their gas.

• **An Appeal—Then?**—The big question, of course, is what will happen next. It's almost a sure thing that the Phillips case will be appealed to the Supreme Court. And chances are that, if the Supreme Court upholds the Appeals Court ruling, legislation will be introduced into Congress specifically to exempt natural gas producers and gatherers from the Natural Gas Act.

Few producers have said much about what they might do if the Supreme Court upholds the Appeals Court decision, and Congress does not pass a law specifically exempting them from control. But they are giving it plenty of thought.

• **Countermoves**—For one thing, if such a situation develops, many big producers will pull out of the interstate pipeline market, and thus pull out of FPC jurisdiction. In fact, some producers have refused right along to sell to interstate markets. Well over 25% of the contracts written between producers and interstate pipelines now have a provision terminating the contract if the sales become subject to FPC control.

Many producers right now are sitting tight on big reserves, selling only to nearby industrial users or to intrastate pipelines. But sitting on reserves is economically impossible for some. In fields where there are several producers, for example, Company A can't afford to sit by and watch Company B next door drain gas from under its (Company A's) wells.

Besides, producers often lease the lands where they do their exploring. The terms usually are that if they strike gas or oil, the lease owner gets a royalty. It's hard to tell lease owners and royalty holders to sit and wait 10 years; they want their money.

## V. Pipelines Worry

The producers' main worry is possible government regulation. But regulation is the way of life for the country's pipeline and distribution companies. That doesn't mean they wouldn't like to see some changes made.

What the pipeline companies, for example, complain about is not the theory of regulation but the way regulation works. Two of their biggest





## **A POOR HEAD FOR BUSINESS**

Underneath the permanent wave, it's a boiler. You heat water in the man's head and steam comes out his mouth and pushes the wheel around. It was built 300 years ago, but apparently it was no cheaper than manual labor. Nobody built another.

It would be pointless even to mention the gap in performance between this relic and modern boilers. What might surprise you, though, is the gap between modern units and your boiler. Even if it's only 20 years old.

Today steam can be cheaper. Versatile designs enable you to switch fuels if one becomes scarce or expensive. Through better firing methods . . . advances in automatic control . . . better furnace design . . . and research in steam purification techniques—you now need less fuel than ever to meet your steam requirements. And other cost factors that will interest you include space and installation savings, lower upkeep, reliability, longer life. Are you in the market for low-cost steam?

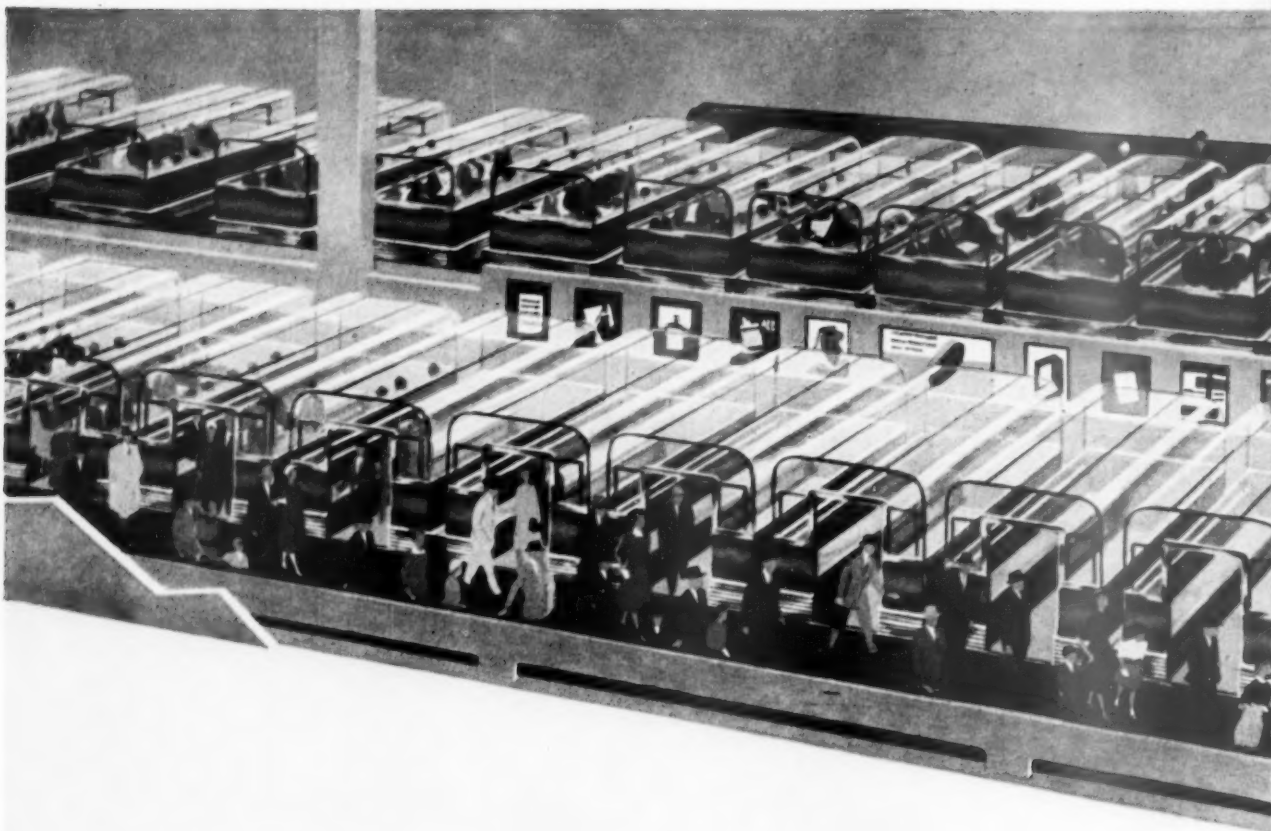
*It will pay you to discuss your power needs with your boiler supplier. Or, for the names of boiler manufacturers who can help you, write us today outlining your problem. Lukens knows boiler builders through more than 140 years of service as a materials supplier. Address Manager, Marketing Service, 483 Lukens Building, Coatesville, Pa.*

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**METROPOLITAN MOVER**—artist's conception of the "rubber subway" for underground passenger shuttling.

## How Soon Will You Ride Like This?

**Human "cargo hauling"** by conveyor belt may seem highly unlikely to you—as it once did to transportation men and others concerned with moving people. But there's nothing improbable about it! Already, factory workers ride from floor to floor on elevator *belts*—man-carrying conveyors that lift them quickly, easily and in complete safety. Other "humanity haulers" are now in the planning stages.

**Airports** may use a below-ground conveyor to carry passengers from terminal building to plane-loading ramps — and save time and money by speeding plane departures as they speed up the flow of people. Your neighborhood shopping center may turn to conveyor belts — in the form of moving sidewalks to carry you from parking lot to store door. Many big cities are considering "rubber subways"—now in operation in scale

model form at Goodyear—as a logical, low-cost answer to below ground and above ground passenger hauling.

**Each of these** applications of conveyor belts has been developed to its present stage using principles proved in belt transportation of huge quantities of coal, sand, ore and other bulk substances over distances up to ten miles. Root of past and future success with conveyor belts is the way they provide low-cost, constant flow of a stream of materials in contrast to costlier, slower, intermittent operation of anything on wheels.

**Whether it's people** or packages, coal, aggregate or ores, the chances are the way to low-cost, high-efficiency transport is via conveyor belts. Call the G.T.M. — Goodyear Technical Man—for a specific answer to your own particular problem, or write:

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## SPECIAL REPORT

gripes are over the rate of return FPC allows and the fact that FPC has discouraged pipelines from developing their own gas reserves and production.

• **Rate of Return**—Until last year, most transmission companies figured that the FPC was calculating rate increases based on a 6% return on invested capital, and planned to stick to it.

But last year, FPC came up with a new "cost of money" yardstick that grayed the hair of pipeline management. As applied to Northern Natural Gas Co., for example, it worked out to a 5½% return. Last month, though, the courts reversed the FPC ruling, saying that a 5½% return was "unreasonable and unjust," and everyone breathed a lot easier. But the issue isn't settled yet for all time.

Many pipelines feel that 6% on invested capital isn't satisfactory. Some would like to figure the rate base on current cost of equipment, not original cost. Others have advocated some sort of sliding scale. Such a system might start by using the original cost of equipment as a base and work out a coefficient based on the fluctuations in the cost of steel and labor—two big pipeline expense items.

The industry is looking for some new yardstick because it has been squeezed by the rising cost of borrowing money and of operating.

• **Money Costs More**—Several years ago pipelines could sell 4.10% and 4.25% preferreds. About a year ago, Texas Eastern had to give 5.5%, and El Paso recently offered preferreds at 5.65%.

One hopeful sign is that FPC, in August, announced a rate increase for United Fuel Gas Co. that will give it a 6½% return. This may foreshadow higher rates.

• **Into Production?**—The other big thorn in the side of the pipelines is the fact that the FPC formula for rate-setting has discouraged them from developing their own gas reserves and expanding their production.

The basic problem is this: The FPC draws a distinction between the gas that pipelines buy from others and the gas they produce themselves. When a pipeline buys gas, the full price is allowed as an operating cost for rate purposes. When it produces the gas itself, FPC allows it a price based on a 6% return (after taxes) on its depreciated investment in the gas-producing property, minus any revenues derived from byproducts such as LPG.

That sometimes results in absurdly low allowances for such gas. For example, one company is allowed to deduct as an operating expense only 0.4¢ per MCF for the gas it produces in a certain field, while other producers get 8¢ per MCF for the same gas.

Most companies feel that the gas they

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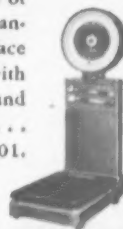
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## SPECIAL REPORT

produce themselves should be valued at the same going rate paid to other producers in the same gas fields.

Why do the transmission companies want to get into production? For one thing, they figure it puts them in a better bargaining position with producers if they have a few trillion cubic feet of their own reserves under their belt. Secondly, it provides more flexibility of operation. Paul Kayser, president of El Paso Natural Gas Co., a firm believer in pipelines engaging in production, figures that a 50-50 balance (50% bought from producers and 50% taken up from their own reserves) would be a good balance for most pipelines.

### VI. Miracles in Chemistry

One of the brightest future prospects for natural gas is in the chemical industry—especially petrochemicals. Use of natural gas as both raw material and fuel in the petrochemical industry has soared since the war. And the potential is still tremendous.

• **Raw Material**—Last year, petrochemicals produced about 25% of the nation's chemicals. Experts figure that in 10 years this figure will be doubled. Some 75% of the new petrochemical plants announced for the first half of 1953 are designed to use natural gas as a raw material.

There are literally thousands of different petrochemicals using natural gas as a keystone. For one thing, the gas itself isn't just one hydrocarbon; it is composed of more than half a dozen. Composition varies according to which field the gas comes from, but a fair average is about 92% methane, 3% ethane, small percentages of propane and butane, and very small fractions of pentane, hexane, heptane, and some others. Sour gas, plenty of which is produced in the Texas Panhandle region, contains a fair amount of sulfur.

Any of these substances can be used as a raw material. And the potential tonnage of petrochemicals that could be made from natural gas is almost astronomical.

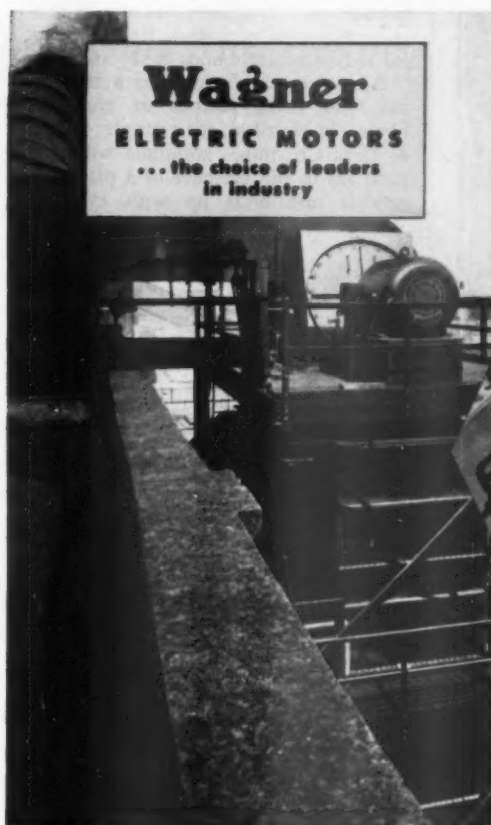
Major products that petrochemical plants are turning out now are ammonia, alcohols, plastics and fibers, synthetic rubber, and detergents.

In all these operations, gas makes a cheap feedstock. For example, it takes about 50,000 cu. ft. of gas to make a ton of ammonia. Figure the plant price of ammonia at around \$83 a ton, and the cost of natural gas at 20 cents an MCF. That means the cost of gas for the synthesis of ammonia comes to only \$10 a ton, or 12 1/2% of the sales price.

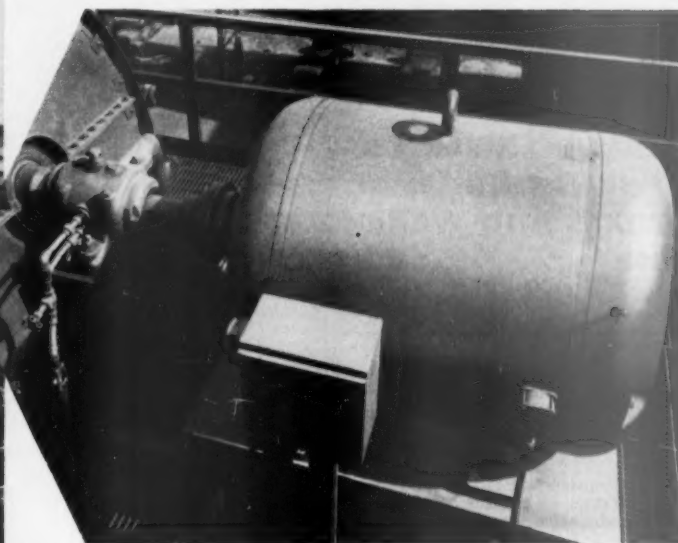
• **Chain of Products**—Right now, ammonia is one of the big volume items. With it as a starting point, there are lots of places you can go.

Ammonia is basic for fertilizer com-





*This fly-ash control equipment, on the roof at the Murray Corporation of America, is powered by a Wagner Increment Motor and Starter Combination.*



## to be a better neighbor

The nuisance of smoke and air pollution is a menace to good public relations for much of modern industry. Plant engineers are constantly seeking economical ways to alleviate this nuisance so that industry can be a better neighbor in its community.

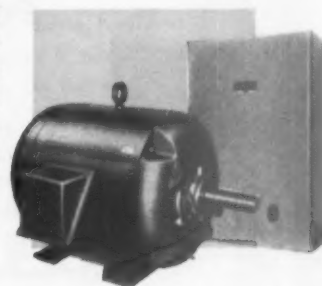
A successful approach to the air pollution problem is this motor-driven fly ash collector on the roof at the Murray Corporation of America, Detroit auto body manufacturer. This effective installation is driven by a 250 hp, 220 volt, 1160 rpm totally-enclosed fan cooled Wagner Increment Motor and Starter Combination.

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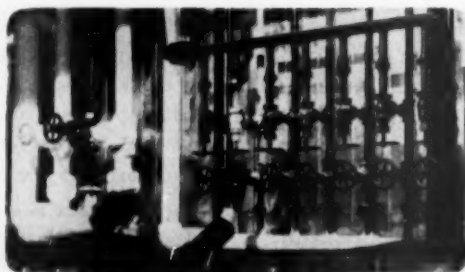
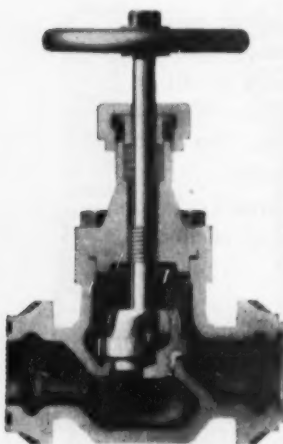
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**SPECIAL REPORT**

pounds, such as ammonium sulfate and ammonium nitrate—and the demand for fertilizer compounds is sky-high.

Ammonia can be used as a starting point to make plastics or synthetic fibers. In Houston, for example, Rohm & Haas Co. mixes ammonia with natural gas in the presence of a platinum catalyst and ends up with cyanide. When the cyanide is mixed with acetone, the result is the clear plastic, Plexiglas.

The chain continues. Take the cyanide, mix it with acetylene (which also can be made from natural gas) and you end up with a dozen different kinds of synthetic textiles.

But ammonia isn't all. There are hundreds of products that can be made from the methane components of natural gas alone. And when the chemists start playing with the ethane, propane, and butane fractions, there's no limit.

• **Looking Ahead**—Granted that the use of natural gas as a chemical feedstock is extremely important to the chemical industry, how important is it to the natural gas industry? Volume-wise, not very. That's because of the same fact that makes natural gas such a good thing for the chemical industry—a little gas goes a long way.

The President's Materials Policy Commission did some crystalball gazing as to the future of gas as a raw material. The commission figured that by 1975, output of primary petrochemicals will increase to about 55-billion lb. annually. This compares with a 9.9-billion lb. output in 1950.

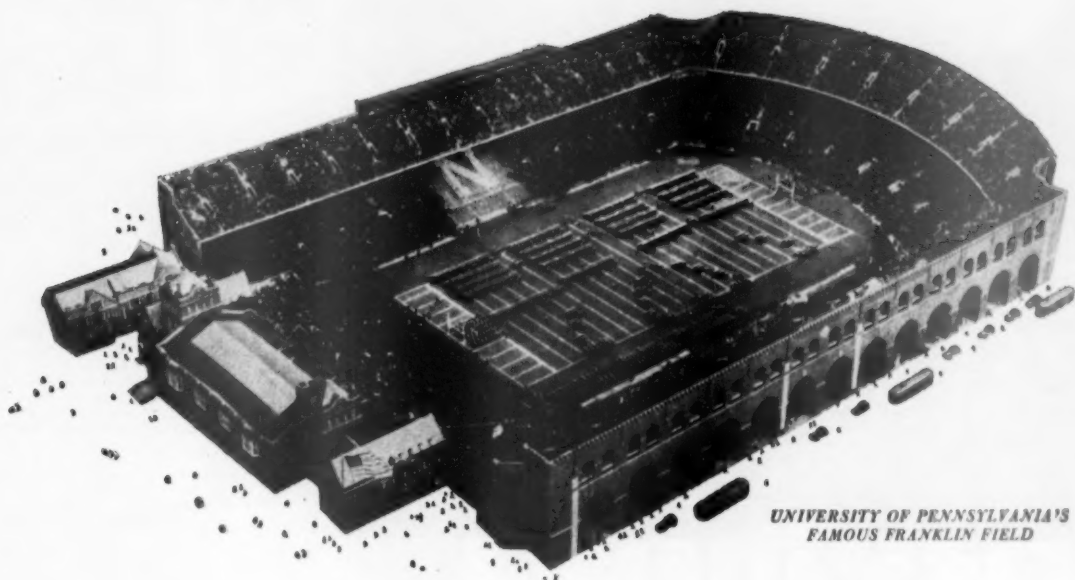
But total natural gas production will also rise steeply. So, the natural gas used as a chemical feedstock probably will still represent only about 3% of total production.

This doesn't mean that petrochemicals are unimportant to the natural gas industry. For one thing, as natural gas is upgraded for use as a raw material, its value goes spiraling up. Many chemical engineers figure that natural gas is worth 75¢ or better per MCF as a feedstock, compared with its price of 20¢ to 30¢ per MCF when used as a fuel.

• **Value Added**—Take ethane alone. Along with propane and butane, it can easily be stripped out of the natural gas. As a constituent of natural gas, it isn't worth half a cent a pound. If you extract the ethane, its value is about one cent. But if you crack ethane to ethylene, you have something worth three or four cents a pound.

That's one of the big reasons that natural gas cycling and stripping plants are sprouting up so close to the big producing fields. Gas is rich in hydrocarbons. An efficient stripping plant can take as much as two gallons out of every MCF of juicy gas, and still leave

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**10,000 yards of concrete...**  
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• Better than 60,000,000 spectators will be sitting in the stands this Fall to watch the spectacle of Saturday!

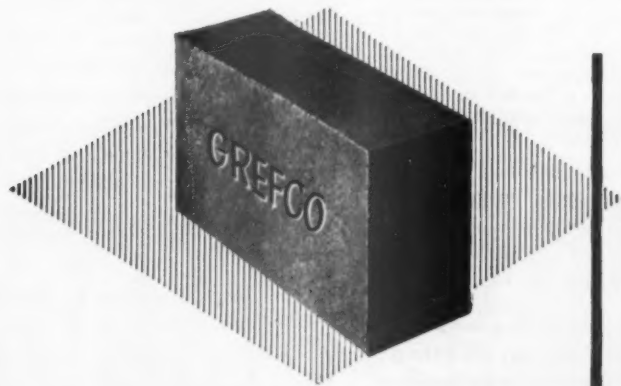
And, whether it's the latticed steel stand at a country high school or a massive concrete stadium, such as above, neither would be but for refractory brick.

Grefco's patented RITEX basic brick has been used in more Portland Cement kiln linings than any other basic brick. RITEX and OLIVE HILL, together with Grefco's exclusive STEELKLAD, have helped produce the steel for reinforcing

concrete rods for the great stadiums, the members for the high school stands, today's metal goal posts.

Even the lime that stripes the gridiron itself may have been born in kilns lined with Grefco special HR high duty fireclay brick, ARCO or ARCO-70 high alumina brick, or YOUGH silica brick.

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The results were as promised. Heat waste is negligible. Not a single foot of manufacturing space was sacri-

ficed. There is no interference with craneways.

But that's not all. This system has other important advantages. TRANE Projection Heaters with exclusive Louver Cone Diffusers make it possible to diffuse heat in any desired pattern, wide or narrow; to the left or right—even divided streams. Louvers are quickly adjustable to meet changing needs.

It's easy to see why space and cost conscious managements and their consultants prefer TRANE Unit Heaters. Like all products in the complete line of TRANE heating, ventilating and air conditioning equipment, they're designed to solve specific problems—solve them better, more economically.

For better solutions to your problem, contact your nearest TRANE Sales Office. In the meantime, write for a copy of "Temperatures by TRANE." The Trane Company, La Crosse, Wis. • East. Mfg. Div., Scranton, Penn. • Trane Co. of Canada, Ltd., Toronto • 87 U.S. and 14 Canadian Offices.



**Dramatic smoke test picture** illustrates another important cost-reducing feature of TRANE Unit Heaters. Exclusive Louver Cone Diffuser (quickly adjustable) beams worker comfort in any desired direction—no need to re-locate heaters when work stations are shifted.

# TRANE

**manufacturing engineers of  
air conditioning, heating  
and ventilating equipment**

## SPECIAL REPORT

most of the energy value in the dry gas.

Most of the country's petrochemical plants—about 85%—are in an area extending from Baton Rouge, La., to Brownsville, Tex., near most of the country's oil and gas fields and refineries.

Finally, old-line chemical companies aren't the only ones to latch on to the value of natural gas. Oil companies—which produce the bulk of natural gas—are moving into petrochemicals as fast as they can. And pipeline companies, too, are getting their foot in the door.

## VII. The Outlook

Where is the industry going? Most observers agree:

- The industry is reaching a turning point. The day of the big, new long-distance pipelines is on the wane. In two or three years, nearly all the major virgin markets will be served. Most of the new building will be in loops or parallel lines to serve existing markets—a matter of laying down more gas for the customers.

- In 1952, some \$493-million was spent on transmission lines; this year the American Gas Assn. estimates that \$802-million will be spent. But then the tapering-off comes. The estimate is \$528-million for 1954; \$295-million for 1955; and \$293-million for 1956.

- Demand for natural gas by 1955-56 is expected to be 30% above the 1952 levels, according to the Petroleum Administration for Defense. As demand and prices climb, oil and gas companies will devote more time and money to exploring and drilling for gas.

- Industrial use, which now accounts for more than one-half of all the gas sold, is expected to increase for several years, then decline. The main reason is price. As the cost of gas increases, it will no longer be economically advantageous to use it as a boiler fuel. In an industry like petrochemicals, though—where gas can be upgraded from a fuel to a raw material—demand will continue strong.

### REPRINTS AVAILABLE

Single copies of this Report to Executives will be available in about four weeks to BUSINESS WEEK subscribers upon request without charge. Other copies will be billed at the following rates: 1 to 10 copies, 20¢ each; 11-100 copies, 16¢; 101-1,000 copies, 12¢; over 1,000, 10¢. Address orders for reprints to Reader Service Dept., Business Week, 330 West 42nd Street, New York 36.

PITTSBURGH CORNING INTRODUCES . . .



# ALUMINUM- JACKETED FOAMGLAS<sup>®</sup> PIPE INSULATION

This New Product Can Cut  
Costs in Your Plant 4 Ways:

**1 ELIMINATES COSTLY STEPS IN APPLICATION:** Already jacketed with aluminum at the factory, this new FOAMGLAS pipe covering gives you moisture-proof insulation, weather-proof jacket and attractive finish all-in-one.

**2 PROVIDES A BEAUTIFUL FINISH AT MINIMUM COST:** Just slip Aluminum-jacketed FOAMGLAS on the pipe, fasten with bands and you have a most eye-appealing installation without the customary high costs required to give an attractive finish to ordinary insulations and field-applied jackets.

**3 AVOIDS MAINTENANCE EXPENSE:** Now you have the rot-proof, fire-proof, acid-proof qualities of FOAMGLAS in the finish. It takes abuse and is weather-resistant even in industrial atmospheres. The smooth, wrinkle-free surface of .004" thick, stippled aluminum is sanitary, easy to clean, saves the expense of re-painting year-after-year.

**4 INCREASES INSULATION EFFICIENCY:** The heat reflecting asset of the aluminum jacket supplements the unequalled insulating properties of FOAMGLAS . . . the rigid, cellular glass insulation that *stays dry* inherently, retaining its original insulating efficiency.

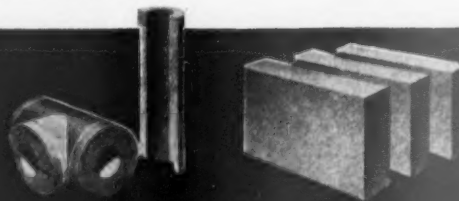
FOAMGLAS pipe insulation is available without jacket or factory-jacketed with either glass fabric or aluminum for use on lines from minus 50° to plus 800°F.

For more information about all forms of FOAMGLAS insulation, write us indicating your choice of literature on FOAMGLAS for piping, tanks and equipment, refrigerated structures, normal temperature buildings, or on the new Aluminum-Jacketed FOAMGLAS. Address Dept. F-93, Pittsburgh Corning Corporation, One Gateway Center, Pittsburgh 22, Pa.

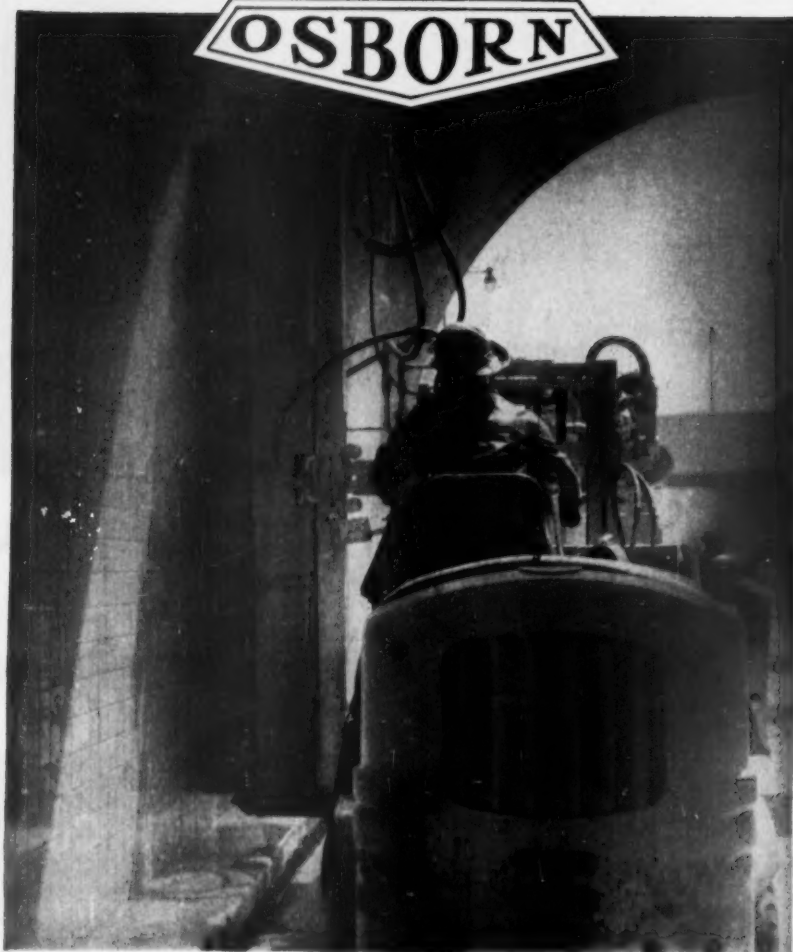
**PITTSBURGH CORNING CORPORATION**

One Gateway Center, Pittsburgh 22, Pa.

# FOAMGLAS



# OSBORN



## Formerly 128 man hours ... Now cleaned in 4 man hours

**T**HIS SAVING in costs is typical of thousands of operations throughout industry when idea men convert from hand cleaning and finishing methods to power brushing.

This job consists of cleaning greasy deposit caused by auto exhaust smoke from the wall of two tunnel tubes 1662 feet long. It formerly required 4 men working 4 days . . . or a total of 128 man hours. Now the machine shown, equipped with an Osborn Rota-Master® Brush scrubs the wall and a follow-up water truck rinses it in a total of 2 hours . . . or 4 man hours. Costs are slashed and traffic interference is minimized.

In maintenance work and in production . . . in cleaning, finishing and deburring . . . for large parts and small . . . for materials of all kinds and shapes . . . the opportunities for cutting costs with power brushing are limitless. Ask for an appraisal of your possibilities by your nearby Osborn Brushing Analyst. Call or write The Osborn Manufacturing Company, Dept. A-20, 5401 Hamilton Avenue, Cleveland 14, Ohio.

# Osborn Brushes

OSBORN POWER, MAINTENANCE AND PAINT BRUSHES AND FOUNDRY MOLDING MACHINES

# INDUSTRIE

## Industrial Truck . . .

. . . makers get merger fever in rush to cash in on expected bonanza in materials handling.

At least one section of the materials-handling industry—the industrial truck makers—has a happy eye fixed on a civilian market that it thinks will more than double in the foreseeable future.

Undisturbed by a current setback due to reduced military buying, the truck makers are breaking out in a rash of mergers. Their object is to boost sales by broader product lines and expanded distribution outlets. In many ways, it parallels what is happening in the construction industry (BW—Aug. 5 '53, p56).

• **Expanding**—Outstanding in the trend is Baker-Raulang Co., a leading manufacturer of gas- and electric-powered industrial trucks. Baker-Raulang makes no bones about its plans to broaden product lines to the point where distributors can offer a complete materials-handling package—a full line of industrial trucks, containers (pallets, skids, etc.) and floor and overhead conveying equipment.

The Cleveland (Ohio) company made its first move in this direction last Dec. 31, when it bought Lull Mfg. Co. of Minneapolis for \$1,256,873.37 (\$700,000 in cash, balance in Baker-Raulang stock). The acquisition gave Baker-Raulang several things it wanted: new equipment lines, an engineering staff with plenty of savvy in the outdoor industrial truck field, plus 90,000 sq. ft. of modern plant that is a welcome addition to the present cramped quarters.

The next move—to be made within the next 12-18 months—will be to acquire a line of hand-powered trucks. Three or four companies are being considered; the choice will probably fall on one that makes both types. With this acquisition, Baker-Raulang will have a complete line of industrial trucks, since it already produces gas- and electric-powered fork, platform, crane and tractor types.

Within five years, Baker-Raulang officials plan to add makers of conveyor equipment and containers. In all, probably three more companies will be bought. In line with traditionally conservative financial policy, these purchases will be made by equity financing.

• **Two Years Ago**—Mergers in the industrial truck fields started several years



S

ago. Barrett-Cravens Co., Chicago, bought Crescent Truck & Co. of Lebanon, Pa. This added a line of rider-type powered trucks to Barrett-Cravens' line of powered hand trucks.

International Harvester Co. acquired Frank G. Hough Co. as a subsidiary in 1952, which brought a line of front-end loading equipment to IH's line of crawlers and wheel type tractors. And Allis Chalmers Mfg. Co.'s move to buy Buda Co. will give it a line of industrial trucks as well as a source of engines (BW—Aug. 22 '53, p. 36).

Early this year, Clark Equipment Co. bought Ross-Carrier Co. and its subsidiary, Michigan Power Shovel Co. This broadens Clark's line by adding a line of front-end attachments, bulk-handling equipment, and heavy-duty industrial trucks for outdoor use.

Other big manufacturers in the field—Yale & Towne Mfg. Co., Towmotor Corp., Elwell-Parker Electric Co.—show no signs yet of succumbing to merger fever. But many observers feel the urge to merge will get stronger as competition waxes hotter.

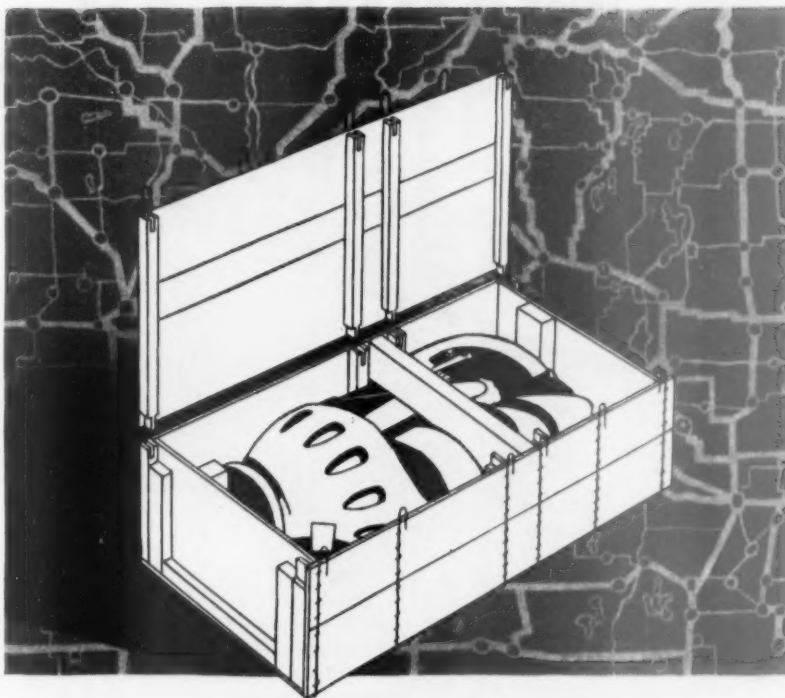
• **Distribution**—Companies with limited product lines inevitably lose distribution—and sales—as other companies grab off distributors through merger deals.

Baker-Raulang is making changes in its distribution setup as well as broadening product lines. Distribution is handled by 34 franchised domestic dealers who usually carry related lines of materials-handling equipment, and a staff of combination engineer-sales managers.

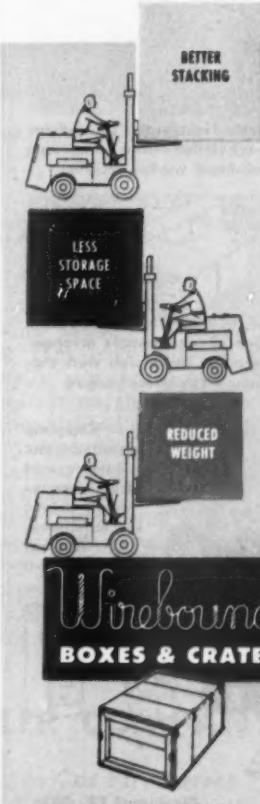
About 60% of the present distributors are already engineers by trade, but more will be needed as Baker-Raulang works toward its goal of complete materials-handling systems. This will require more careful supervision of distributors, as well as an expanded field service staff to give engineering help.

Distributors will have to offer more in the way of replacement parts and repair service, too. Now only about 40% handles replacement parts, though all have some kind of service setup. Electric trucks require little service, but gas trucks call for considerable maintenance and repair. Since Baker-Raulang brought out a gas-powered truck early this year, it is pushing distributors to carry replacements parts.

• **Raised Sights**—Though Baker-Raulang gained only a few distribution outlets in buying Lull, it expects the subsidiary (known as Baker-Lull Corp.) to add \$4 million to this year's anticipated \$10-million in sales. Last year, Baker-Raulang sales were \$8,157,560, a record for the company. Next year could be even better, officials believe, since the



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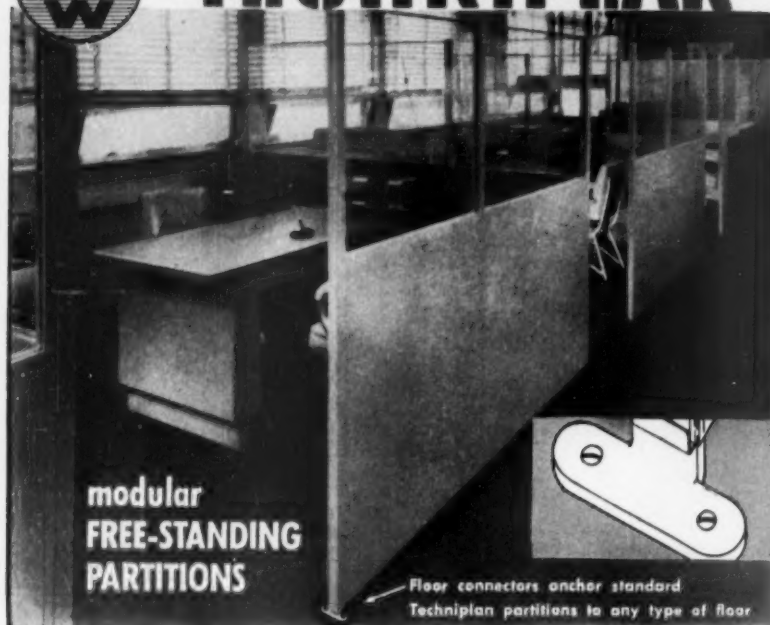
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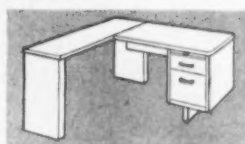
**PARTITIONED** enclosures for private offices, executive suites and departments are readily provided with new Techniplan floor connectors for standard interlocking steel partitions. This now affords complete uniformity throughout the offices.

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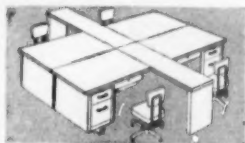
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Basic Techniplan "L" modular work station—interchangeable job-fitted worker facilities



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Baker-Lull plant is capable of an annual volume of \$8-million and has a \$5-million backlog.

Baker-Lull offers products in two of the fastest-growing areas of the materials-handling field—bulk handling equipment and front-end attachments. Although it is familiar in construction work, bulk-handling is relatively new to the materials-handling field.

The Baker-Lull Tractorloaders are heavy-duty tractors equipped with either bucket or forks. Because they use high flotation tires and four-wheel drive and steering, they are said to equal or exceed performance of crawler tractors, especially over smooth terrain. Previously, Baker-Raulang offered no pneumatic-tired equipment.

Attachments to make trucks more versatile are being pushed by almost every industrial truck maker, since they permit trucks to handle many types of loads where pallets are not economical or feasible. Though Baker-Raulang has a line of front-end attachments, Baker-Lull offers an even wider selection.

• **Sky's the Limit**—Growth potential of the industrial truck market is enough to make any manufacturer's mouth water. Right now, about 186,000 powered trucks are in use.

The industry figures that if U.S. production remains at current levels, the saturation point won't be reached short of 500,000 units. Beyond that, there will still be the replacement market.

Shipments of the industry so far this year are up 13.3%, though orders booked and backlogs are way down, largely due to the cutback in military buying. Last year, for example, the gas and electric truck makers booked orders for 6,782 units in the first six months. This year, orders booked in the same period are down to 2,785. Backlog on June 30 last year was 6,173 units, while this year it is only 3,078 units. This year will wind up a little better than last as far as sales (shipments) are concerned, since makers are still working off their backlogs. But next year will probably be down. Just the same, the industry says civilian orders are up 10%-14% over those of last year.

So far, gas-powered trucks have the edge over the electrics with about twice as many gas units as electrics in use. Last year about 10,000 electric trucks and nearly 20,000 gas trucks were shipped. Motorized hand trucks (called "walkies" because they are guided by hand), accounted for another 6,000 units.

Fork trucks are by far the most popular type of industrial truck, accounted for about 80% of last year's sales. Tractor trucks came next with 8%, platform type with 7% and crane type, 5%.



*Philadelphia Evening Bulletin*

**TEST FIRE** in an airplane hangar shoots up from under mock airplane wing.

## Putting the squeeze on a fire

The fire in the airplane hangar above might have raged on indefinitely if it weren't for mists of Rockwood FogFOAM.

In a hangar fire, an airplane's wings can cover the pool of flaming gasoline that spreads across the floor thus preventing ordinary sprinkler systems from dousing the flames. And a single plane can carry up to 12,000 gallons of high-octane aviation gas!

The Rockwood FogFOAM mists, however, discharged out from the ceiling to form a fast

flowing mass of FOAM on the floor that encircled the gas and literally squeezed out the fire! What's more, they absorbed smoke as they drifted down, left the walls free from smudge.

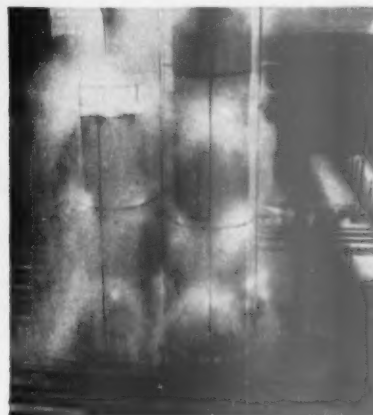
Rockwood FogFOAM is a mixture of 97 parts water and 3 parts special Rockwood FOAM liquid. It seals off oxygen, uses far less water than ordinary fire-fighting equipment and is typical of the way in which Rockwood engineers water to cut fire losses.

## ROCKWOOD SPRINKLER COMPANY



**Engineers Water . . . to Cut Fire Losses**

### *How Rockwood Engineers Water to Cut Fire Losses*



**THESE LIQUID PETROLEUM GAS TANKS** get speedy protection from a specially constructed automatic Rockwood WaterFOG system. It blankets them in instants with a fire-smothering steam — a spectacular fire protection.



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# MANAGEMENT

## Bidding for Executives Is Lively, High

- Expansion of business has created more openings for men close to the top.
- Fears of tighter markets make companies want higher quality in both sales and research.
- With offers becoming generous, more management men are looking for new jobs, more security.

Postwar business, constantly expanding, has developed an insatiable appetite for more executive talent. Of late, too, the thought that business may get tougher has whetted the yen for higher quality as well as greater quantity. On top of this, the executives themselves have developed a mighty urge for better jobs and more money and more security under the squeeze of the income tax.

These pressures have combined to create considerable turnover at the higher levels of business. There is brisk bidding for the services of top hands, especially in sales and engineering. And brisk questing for top jobs, too.

• **The Market**—Take a look at some examples from the files of such top-management consultants as Booz, Allen & Hamilton, John L. Handy and others:

A household utilities company with \$100-million annual sales is on the prowl for a research and development vice-president, and will go as high as \$50,000 a year to get the right man. Even small to medium companies are offering \$18,000 to \$20,000 for engineering executives, and will go to \$30,000 and over for a really outstanding man.

Many companies are looking for presidents, with high-opening bids. Several outfits in the \$40-million to \$45-million sales bracket have offered from \$60,000 to \$125,000 in total remuneration including pension and stock-option fringes. In companies of the \$90-million class, the bait went clear up to \$160,000 to snare a head man.

There is lively bidding for other types of general management men. A semi-autonomous division of a large company—the division itself has sales that range from \$50-million to \$60-million—now has a standing offer to pay a general manager \$40,000 to \$50,000.

• **Variables**—Bids for specialized executives, of course, vary with the importance of their particular function to a given company. Thus, sales are rela-

tively unimportant to one subsidiary whose parent company absorbs 80% of its \$120-million business. As a result, the subsidiary bid a modest \$28,000 for a sales vice-president, but went up to \$47,000 for a manufacturing v.p.

Another variable factor is the degree of supervision to which an operating executive may be subjected. A \$5-million-sales company is offering only \$20,000 to \$25,000 for a new president. That's because the company is subsidiary to two others in a 50-50 partnership, and the parents intend to do most of the decision-making.

• **Going High**—An outstanding feature of the lively top-job market is the realization, at last, by small companies that they must raise their sights sharply to get the men they need to buck major league competition. Here's a list of current standing bids made by smaller companies:

• An outfit with \$12-million sales will go as high as \$60,000 for a president—and will throw in a stock bonus plan.

• Another \$12-million company wants an executive vice-president who will step up into the presidency in a year or two. It is offering \$45,000 to \$50,000, with a stock purchase plan.

• A \$6-million-sales concern is waving \$20,000 at prospective sales managers.

• There's \$25,000-a-year waiting for a research director at an \$18-million concern.

• A company with \$11-million sales will put up \$30,000 for a sales vice-president. That matches the salary for the same job being paid by a competitor with twice as much business.

• **Quality**—Widespread expansion of business is no doubt the principal factor behind the big hunt for executives. But the quality factor enters into it, too. Since the war, the art of salesmanship has consisted to a considerable extent in sitting at a desk and fending off excess orders. Now, with many companies figuring that selling may soon be

a synonym for scratching, and scratching hard, more and more top executives are wondering whether they aren't carrying dead wood in the sales department.

Similarly, management is trying to key up its research and engineering departments with new men who will come up with new products, or bring old ones to a high shine.

These trends are reflected in the company requests for new personnel that reach the major consultants. Booz, Allen, & Hamilton report that sales and research-development are running ahead of all other types of management. John L. Handy, a New York management consultant whose office has dealt—for placement or advice—with some 150,000 executives in 30 years, concurs. Handy says requests now rank in this order: (1) sales; (2) research and development; (3) general management; (4) manufacturing.

• **Moving Around**—The rising demand, coupled with a rising offer, has created a restlessness among the executives themselves. Booz, Allen & Hamilton reports that in one recent month 26 presidents of companies—outfits that ranged from small up to \$100-million-sales—indicated that they would be glad to move into a top slot somewhere else. It all adds up to a high turnover rate at top levels (BW—May 2'53, p118).

• **Fringes**—The steep rates of personal income taxes have brought other changes in the executive picture. There are on record today some top men in the \$75,000 to \$100,000 category who would be willing to step down to \$50,000 salaries, if they could sweeten out the lower figure with stock options and other fringe benefits that are immune in whole or in part to the tax collector.

Companies, in many cases, are taking the same line, broadening out their compensation scales to include various types of pensions and the like (BW—Oct. 4'52, p111). Sometimes fringes are as negotiable as salary itself. Take the case of the president of a company with 30-million sales. He held out for and received an option to buy 50,000 shares of company stock. The market price already has shot up to the point where the president has a paper profit of \$330,000 after taxes. But he must wait out the two-year holding period under the restricted option tax law before he can realize that gain. It would take a mighty salary to add up to that sum—after income tax.

Stock options and other forms of



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Director of destinations, the towerman deftly sorts out traffic . . . fans it out far and wide, so that the right shipments get to the right places at the right time.

The same practiced precision goes into traffic control in the modern mills at Bristol. Here every operation is safe in hands that have the same deft touch . . . that keep things moving so that every shipment of Brass sheet, rod and wire gets through to its destination without switch-

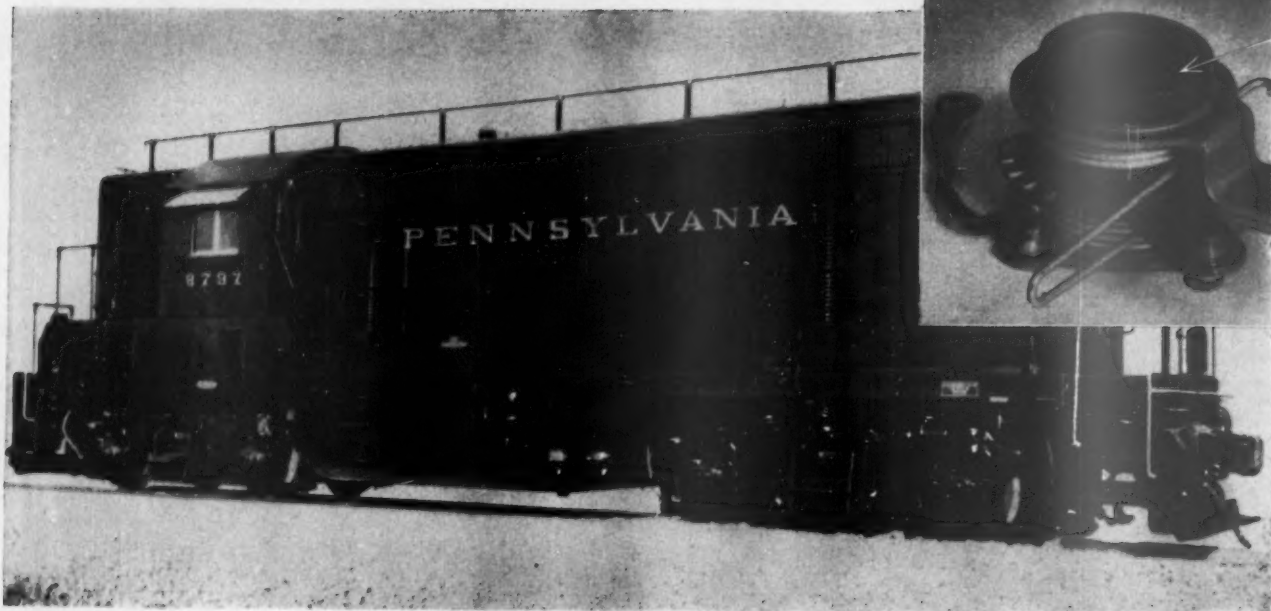
ing, sidetracking, or running behind time.

And this is just *part* of what is meant by "Bristol-Fashion".

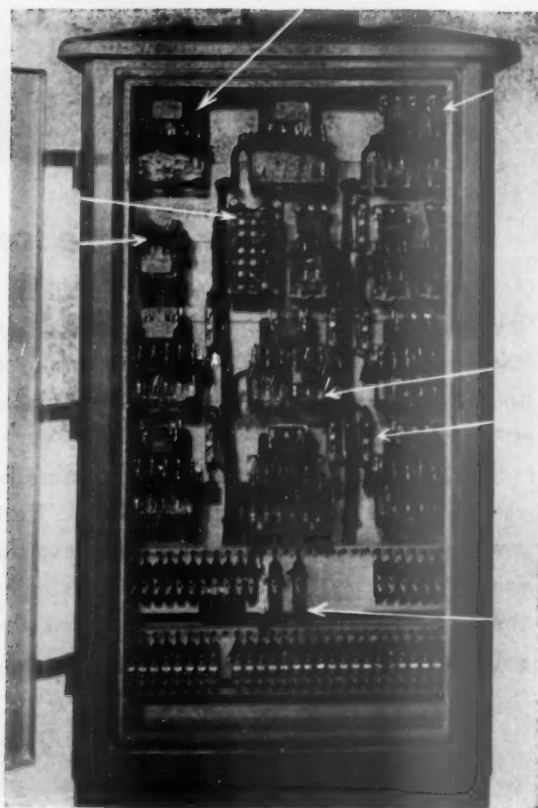
. . .

The BRISTOL BRASS CORPORATION, makers of Brass since 1850 in Bristol, Conn. Offices or warehouses in Boston, Chicago, Cleveland, Dayton, Detroit, Los Angeles, Milwaukee, New York, Philadelphia, Pittsburgh, Providence, Rochester.

*"Bristol-Fashion" means* **Brass at its Best**



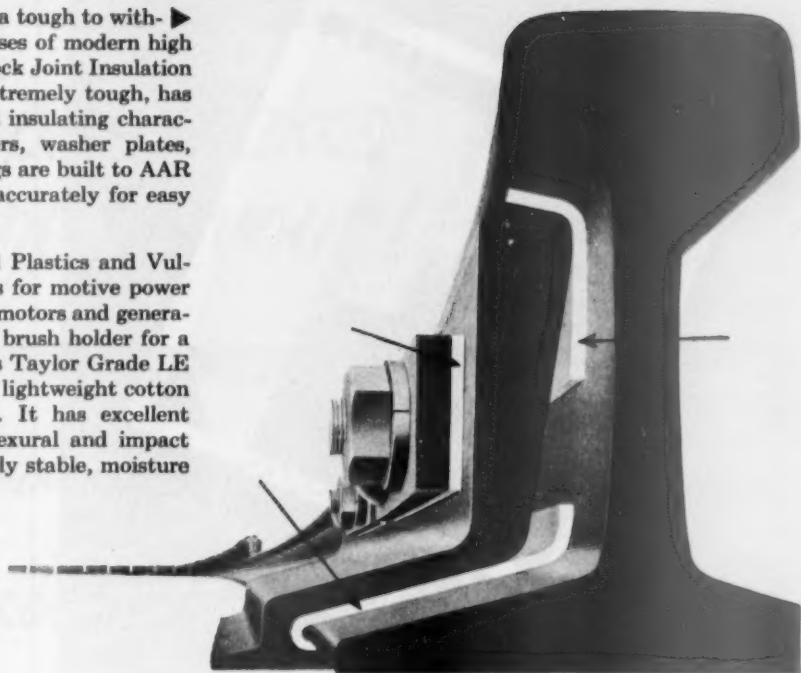
## Here's how the Railroad Industry





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◀ You will find Taylor Laminated Plastics and Vulcanized Fibre doing all sorts of jobs for motive power too. One application is top sticks on motors and generators. Another is the bushing in this brush holder for a Diesel road switcher. The bushing is Taylor Grade LE Laminated Plastic . . . a fine weave, lightweight cotton fabric bonded with phenolic resin. It has excellent electrical characteristics. Tensile, flexural and impact strengths are high. It is dimensionally stable, moisture resistant and easy to machine.



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◀ When the crossing signal flashes, many grades of Taylor materials go to work in the automatic operating mechanisms . . . assuring long, dependable service that is so essential to safety. In this relay case the relay and wire tags are Taylor Vulcanized Fibre, selected for durability and neatness. Taylor Grade XX, a paper base phenolic laminate, is used for rectifier bushings, terminal blocks and the insulating bushing for the adjustable resistance unit. Grade XX has good electrical properties, moisture resistance and dimensional stability. Dielectric strength is retained even after long exposure to high humidity. Other components using Taylor materials include the transformer bushing, relay coil washers, flashing relay support insulation . . . each material being selected for the physical, mechanical and electrical properties best suited for the application.

Vulcanized Fibre, Phenol, Melamine and Silicone Laminates are indispensable to the railroader and to the designer of railroad equipment. These Taylor materials are available in a wide range of electrical and mechanical qualities that can help your staff in many of their design, manufacturing and operational problems. In addition, Taylor engineers and railroad specialists are well qualified by experience to assist in selecting the Taylor materials that are best suited to your requirements.

Taylor facilities are geared to meet your production

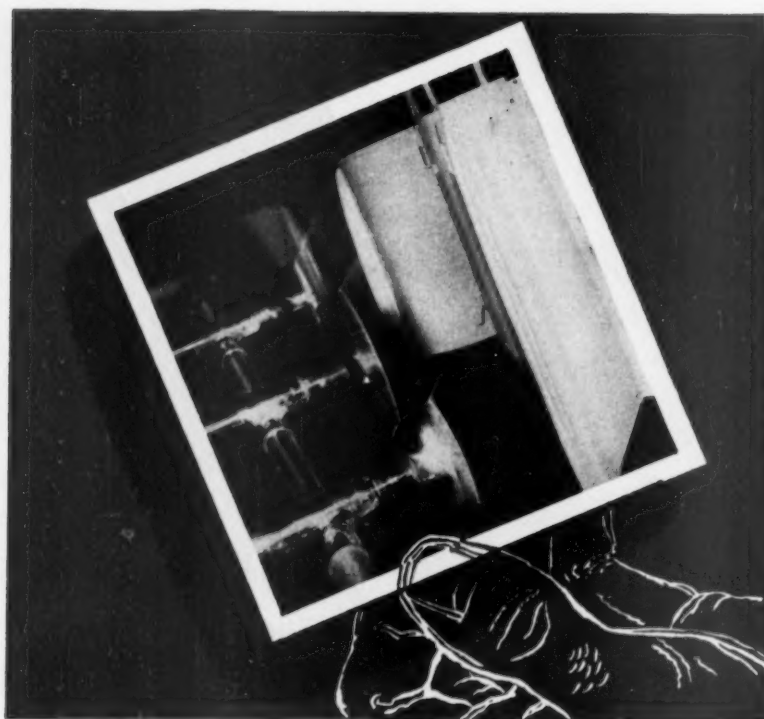
schedules . . . whether you buy raw stocks of sheets, tubes, rolls or rods . . . or specially fabricated parts.

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**" . . . a president, earning \$100,000 a year, was \$100,000 in debt . . . "**

**EXECUTIVE HUNT** starts on p. 114

nonsalary compensation work both ways, of course. They may provide the incentive necessary to make an executive switch jobs. But where they are in effect they tend to lock the top men into their jobs. An executive will think a long time before he makes a switch that involves sacrificing his interest in a good pension program or a choice stock option.

Court decisions and new state laws have been easing the path for directors in making this sort of bid for the executives they want. The latest such law in Delaware gives directors a freer hand in granting stock options to executives (BW-Aug. 8 '53, p. 99).

Insurance plans are also being loosened up, permitting companies to give greater coverage to executives (page 120); and management men are holding out for larger policies. One president recently demanded a \$150,000 policy in group insurance before taking a \$75,000 a year post.

• **Mapping the Future**—Executives in general are doing a lot more thinking these days about organizing their futures in terms other than salary. In this, they are getting help from a number of organizations set up to provide counsel on the intricacies of indirect compensation.

For example, Handy runs the Career Planning Institute, which is set up to help executives 30 years old or more, who earn \$10,000 or better. Handy got the idea from hearing some horrible examples of nonplanning. One financial vice-president, earning \$40,000 a year, found himself at age 60 getting close to retirement—with no savings at all. And a president, earning \$100,000 a year was \$100,000 in debt.

The idea of CPI is to work out the executive's personal financial problems, leaving him free to brood over his job. Handy or his associates spend 20 hours talking with the client, then show him the compensation plan that they believe will give him the most take-home pay.

Armed with this advice, the executive can dick more effectively with a company. Take the case of an executive vice-president who consulted CPI and then asked his company what plans it had for his financial future. The company said he was in for a straight salary boost, with no fringes. As a result, the executive changed jobs, moving to another company that offered him a stock option plan on top of his salary.

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Johns-Manville FIBRETONE offers an acoustical ceiling which is highly efficient yet modest in cost. It consists of 12" square panels of sound-absorbing materials in which hundreds of small holes have been drilled. These

holes act as "noise-traps" where sound energy is dissipated. Fibretone is pre-decorated, can be painted and repainted, and is available with a flame-resistant finish.

Other J-M Acoustical Ceilings include *Permaacoustic\**, a textured noncombustible tile with great architectural appeal; *Transite\**, perforated acoustical panels; and *Sanaacoustic\**, perforated metal panels backed with a noncombustible, sound-absorbing element.

For a complete survey by a J-M acoustical expert, or for a free book entitled "Sound Control," write Johns-Manville, Box 158, Dept. BW, New York 16, N. Y. In Canada, write 199 Bay Street, Toronto 1, Ontario.

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## Insurance Sweetens Salary

More and more companies are supplementing executives' pay by setting higher ceilings on group insurance life policies and providing other kinds of protection.

It's obvious there is no letup in the continuing heavy demand for executives (page 114), and the need to hold onto the birds already in hand. Just as obviously, because of high personal income taxes, rewards other than salary can go a long way toward keeping executives happy.

A whole raft of new schemes to make management jobs more attractive has been devised in the past few years (BW-Apr. 7 '53, p45).

Now insurance is rapidly moving to the fore as a nonsalary means of holding onto executives and attracting new ones.

More and more companies are taking a look at their group insurance programs with an eye to making them better supplements to executive pay.

• **Variable**—The programs take various forms, but essentially they are linked to life insurance policies and health and disability plans. There are several reasons for this:

• The present law gives tax advantages to both the company and the executive.

• The states are liberalizing the maximum coverage for individuals in group insurance plans.

• Insurance companies themselves, especially some of the major writers of group policies, are more willing to boost top limits on coverage.

• A number of new methods are being tried for using insurance to protect (1) an executive's family, thus relieving him of many estate-building worries, and (2) his own income-producing power in case his health deteriorates.

Together, these add up to a potent—and relatively cheap—way to ease the after-tax worries of higher-paid management.

### I. Group Insurance

Group insurance as a form of employee benefit was originated about 40 years ago. Because of changes in insurance company policies and in state regulations this idea has now moved much further into the area of special treatment for executives.

In New York, for instance, a \$20,000 limit on the amount of insurance an executive could get under a group life policy was removed in 1952. There is no ceiling now, and a number of companies are revising their programs upward.

Here's what has happened in one New York firm that employs about 500 people. The top limit on its term policies was \$20,000. That's been changed now so that the two dozen top executives have \$100,000 policies under the group plan. The original underwriting company boosted its share of that \$100,000 risk on each executive to \$25,000. Half a dozen other companies agreed to split up the rest of the risk.

Under the group life arrangement, it costs the company \$18 for every \$1,000 worth of insurance; that's \$1,800 a year for each of its top executive group.

The premiums paid by the company are (1) tax-free to the executive and (2) deductible as a business expense by the corporation. And the benefits aren't taxable as income, coming under the Federal estate law.

This gives each top-level executive a sizable boost toward forming an estate—more than he could accumulate through after-tax savings on any normal salary boost.

• **No Examination**—An important feature for executives—who usually get to the salary brackets where such inducements are attractive only after they reach middle age—is that such policies can be written without medical examinations if the group is big enough to qualify.

The American Management Assn., which made a survey of group insurance plans last month, cites another company operating in New York that lifted its top limit from \$20,000 to \$100,000 for executives earning over \$50,000.

• **Ceilings**—A breakdown of the 38 companies checked by AMA—all of them had some sort of group life policies—showed 24 with ceilings below \$25,000. That would indicate there is still plenty of room for companies to sweeten their insurance programs for top level people.

That's the trend now, although the National Assn. of Life Underwriters would like to see a definite ceiling established in all states. It wants a \$40,000 limit, or one and one-half times an executive's annual salary, whichever is smaller.

It frowns on whale-sized group insurance policies for three reasons. First:

• They might very well reduce the individual insurance market.

• Executives might come to depend entirely on group term policies—

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Chemistry's Wonder Alkyd for Wall Enamels

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It's called WALLKYD. And it's the finest liquid ever developed for flat wall enamels . . . alkyd resin . . . in new, easy-to-apply, air-drying form.

WALLKYD-base wall enamels give you *more* advantages than any other type in paint history.

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**Fast-drying!** You can paint in the morning and replace furniture and drapes the same evening. No prolonged "tender" period . . . next day the surface is tough enough to be washed if accidentally soiled.

**Simple to wash!** Fingerprints, chalk, pencil and crayon marks, dirt smudges, dust accumulations come off quickly with soap and water . . . over and over again.

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**Exceptional covering properties!** You get better surface covering per coat. For solvent-thinned WALLKYD-base finishes contain more pigment and color (more paint) per gallon.

**Matchless beauty!** You enjoy richer tones and smoother, more velvety beauty over a much longer time . . . with greater resistance to scratching, marring and chipping.

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This amazing array of features should lead you to one conclusion: Insist on a wall enamel made with WALLKYD. We'll gladly send you a list of the paint makers using it.

**WALLKYD exterior paint jobs, too, look better . . . last longer!**

Home owners want outside paints to last as long as possible so that their biggest investment in painting...a painter's labor or their own time...goes much further. That's why more and more manufacturers of exterior paints are adding WALLKYD to their formulations.



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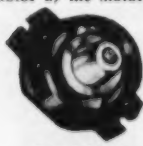


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Protects Against Overloads  
With KLIXON Protectors**

STAMFORD, CONN.: William R. Palmer, Jr., owner of Palmer's Electric Motor Repair Shop, speaks from many years of experience in repairing motors.

"It has been our experience as electric motor repair specialists, that equipping motors with Klixon motor protectors has greatly lessened the number of motor burnouts due to overloading."

The KLIXON Protector, illustrated, is built into the motor by the motor manufacturer. In such equipment as refrigerators, oil burners, washing machines, etc., they keep motors working by preventing burnouts. If you would like increased customer-preference, reduced service calls and minimized repairs and replacements, it will pay you well to ask for equipment with KLIXON Protectors.



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**"... cost to the company is deductible, the benefits are tax free to the employee..."**

**EXECUTIVE LURES** starts on p. 120

in which they have no vested interest. That could leave them with no protection if they quit the company, since conversion costs can be prohibitive on big policies.

• NALU is afraid that if group insurance goes too far it might very well affect the tax status of such benefits.

Even so, many states still have no ceilings on group insurance. Among them are those where most of the large companies are incorporated. Exceptions are Ohio, New Jersey, and Wisconsin, where the \$20,000 limit still applies. Pennsylvania and Connecticut have recently boosted their limits from \$20,000 to \$40,000.

If current insurance thinking prevails, all these states will probably end up with \$40,000 limits. States with no limits are being urged to clamp on the NALU-sponsored standard. Companies that already have group policies with limits higher than \$40,000 undoubtedly can continue those in force, even if a ceiling is imposed later.

Another finding of the AMA survey was that more than half of the companies carried accidental death and loss of limbs policies for its management people. This would cover such hazards as travel accidents—either on common carriers or any other type of travel—up to \$25,000 or sometimes more.

## II. Other Plans

Besides life policies, the AMA lists seven other types of insurance being provided for executives. They range from hospitalization, which almost all companies now have, down through protection for specific diseases such as polio.

One other type that is gaining a lot of favor now is catastrophe insurance for major medical expenses. It is similar to deductible collision insurance for your car (BW—Jun. 21 '52, p. 138).

After the first \$300, say, of medical expense, the catastrophe policy cuts in and pays 75%-80% of the additional cost up to a maximum of perhaps \$10,000.

The cost to the company varies widely depending on factors such as who's covered, salary level (since medical charges are often based on salary), and average age. It might be as low as \$1.50 a month for each individual or as high as \$8.

In any event, though, the cost to the company is deductible as a business

expense and the benefits are tax free to the employee.

Ostheimer & Co., Philadelphia consultants on insurance and pension problems, says this type of coverage is growing rapidly. It is largely confined to executives, although there's a trend, in the Midwest, to cover all employees.

• **Salary Continuance**—Even with hospital, ordinary medical, and catastrophe insurance, there's still a gap that worries a lot of executives who have raised their standard of living to a point where fairly substantial income each year is required. They are asking: What happens if I get sick so I can't work for a long period? If the illness lasts long enough, the company can't afford to continue an executive's salary and any savings are quickly eaten away.

For temporary disability, companies usually have some form of insured benefits or salary continuance policy. But at best, these are unlikely to take care of an executive for more than a year. An executive out of action for two, three, five, or 10 years has little protection.

There are at least two insurance plans in effect now that take care of this contingency. One has been written for Ford Motor Co., the other for Ostheimer & Co. for its own management people. Provident Life & Accident Insurance Co., Chattanooga, Tenn., is the underwriter for both.

Here's the way such a plan might work: Yearly payments up to \$10,000 for a 10-year period are provided for a fairly large group of management people. For executives too sick to work, payments start at the end of, say, the first six months. They would pick up where ordinary disability payment or salary continuance ends.

• **Tax Free**—Premiums paid by the company are deductible and aren't income to the executives. In addition, no tax is paid on any benefits. So at the top, an executive could be getting \$10,000 tax free. The cost to the company—not counting its deductibility feature—might run around \$4.50 a month for each \$100 of monthly income provided—\$54 a year to bring income to the disabled executive of \$1,200.

Ostheimer & Co. thinks this is a form of insurance that will become increasingly popular over the next couple of years. Few insurance companies are ready to write such policies, but that is likely to change.

One cautionary point that both AMA and Ostheimer & Co. make to management is this: Because of the relatively new developments in the group insurance field, tax aspects aren't clear. The old Bureau of Internal Revenue (now the Internal Revenue Service) has made few if any rulings that can be applied generally.





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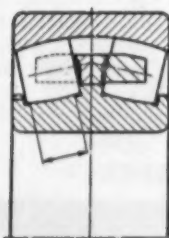
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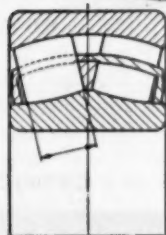
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**BEARING 22315**

This is the Spherical Roller Bearing design originated by **SKF** more than thirty years ago. The cross-section shows how the integral inner ring flanges, and the undercuts adjacent thereto, limit the effective length of the rollers.



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Here is the *latest SKF* improvement, a *revolutionary advance in design*. Effective roller guiding is accomplished by means of a separate ring. This eliminates the need for undercuts! This type of guide ring permits the rollers to take the position which their contact with the rings dictates. This assures uniform load distribution over the entire length of the longer rollers at all times. *Result* — greatly increased capacity and life.

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PlyScore is the economical unadorned construction grade of interior-type. Use it for boxes, bins, subflooring, wall and roof sheathing.

**EXT-DFPA**



**SPECIFY DFPA-INSPECTED PLYWOOD**

## Setting Up a Research Arm

**Offshoot of Thompson Products will delve into electronics . . . Management society plans counsel for individual problems . . . Sylvania bars use of "assistant to" in titles.**

Thompson Products, Inc., last week made an unusual arrangement with two former executives of Hughes Aircraft Co. The end results:

- The two men have a company of their own to run, with plenty of financial backing.

- Thompson gets a research development and manufacturing arm that will put it further into the high-level electronics fields than ever before.

The arrangement works this way: A new organization, called Ramo Woolridge Corp., has been formed. Its president is Dean E. Woolridge, former vice-president in charge of research and development for Hughes. Simon Ramo, former vice-president for operations at Hughes, will be executive director. Headquarters will be in Los Angeles.

- **Top Men**—Presumably they will be able to attract a staff of researchers from the area through their reputations. For, in Woolridge and Ramo, Thompson got a couple of Hughes' top-flight management men. They had been pulled in from General Electric Co. and Bell Telephone Laboratories, Inc., when Hughes Aircraft was being beefed up back in 1948.

Apparently they decided to leave the Hughes organization after a talk-of sale of the electronics part of the business failed to come off (BW-May23 '53,p85).

According to John D. Wright, Thompson Products president, the big Cleveland auto and airplane parts supplier will have a stock interest in the firm and will receive consulting services in return.

- **Research**—Biggest reason for Thompson's interest, of course, is that it will get the benefit of the advanced research and development work these two men plan to do.

When the new outfit comes up with a hot idea, Thompson will provide the financing and manufacturing techniques. It has a plant and a small research staff in the Los Angeles area.

The new firm will concentrate on advanced work in the general fields of guided missiles, radar, computers, and electronic controls.

## Individual Counsel

This year the Society for the Advancement of Management will be taking a new approach at its annual management conference, scheduled for Oct. 29-30.

In addition to the usual group conference sessions on a variety of subjects, the society is setting up consultation rooms to handle individual companies' special management problems.

Experts in various fields will be on hand as counselors to answer questions that might be too specialized for handling in group conferences. Some 25 large companies will provide executives to act as counselors.

## No More Assistants

Don G. Mitchell, chairman of Sylvania Electric Products, Inc., agrees with Ralph J. Cordiner of General Electric Co. that the use of the phrase "assistant to" in titles ought to be dropped (BW-Aug.22'53,p122).

He told a meeting of about 100 presidents, board chairmen, and executive vice-presidents last week that his company had barred use of the title because it fails to describe what an employee's job is. He could be an errand boy or the next president.

The top executive group was attending a briefing session during the opening week of the American Management Association's five-week general management training course in New York.

## MANAGEMENT BRIEFS

**Industrial Psychology, Inc.**, which packaged a set of job tests for sale to companies (BW-Sep.15'51,p72), now has come up with a series of five merit-rating tests—covering clerical, mechanical, sales, technical, and supervisory performances. The tests can be administered by the company itself.

**Westinghouse Electric Corp.** has doubled the payments in its suggestion award system. Employees may now receive as much as \$15,000 for a single suggestion. Payments are figured on the basis of 20% of net annual savings made possible by the idea or 10% of gross savings, whichever is greater.

**General Electric** is taking its second employee attitude survey at its Hanford, Wash., plant. Questions are coded in the same manner as last year to permit comparisons. Richardson, Bellows, Henry & Co., New York consultants, is assisting GE's employee relations research section.

THE THREE CUTLER-HAMMER STARS ★ ★ ★

STAND FOR THREE NEW STANDARDS



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The cost of installing motor control today is usually much more than the cost of the control equipment, often two to three times as much. Thus this new control offers large savings.



Look for the three silver stars on the famous Cutler-Hammer nameplate; they identify the new spectacular Cutler-Hammer ☆☆☆ Motor Control. These three stars stand for three entirely new standards in motor control satisfaction and value. ☆ 1... Easier, faster, lower cost installation any electrician can readily prove. ☆ 2... Time-saving, trouble-saving, cost-cutting better performance which any test will confirm. ☆ 3... Amazingly longer life due to advanced engineering features anyone can understand. Compare it by features and by performance. You too will say it is the finest control you know. CUTLER-HAMMER, Inc., 1275 St. Paul Avenue, Milwaukee 1, Wisconsin.



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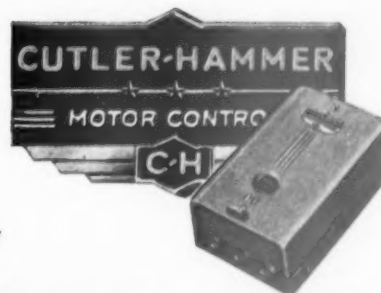


## *Lasts longer*

Revises all existing ideas of long trouble-free life in motor control. Cuts rate of wear to point that maintenance care and cost are virtually eliminated for 90% of all control uses.

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COMPARE IT!  
TEST IT!  
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## Steel that keeps 253 teeth from losing their bite

THESE 253 teeth are part of a new machine that makes chicken wire fast. They turn the gears that twist the wire. They have to be extremely hard to resist wear.

Distortion during hardening frequently bent and twisted the steels formerly used, throwing the teeth out of line. And racks made of ordinary steels wore out too fast.

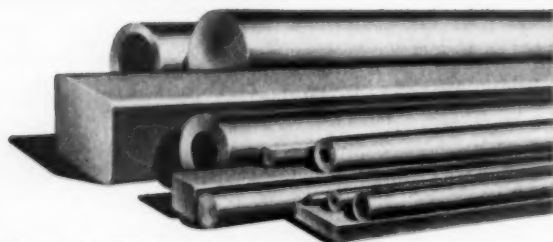
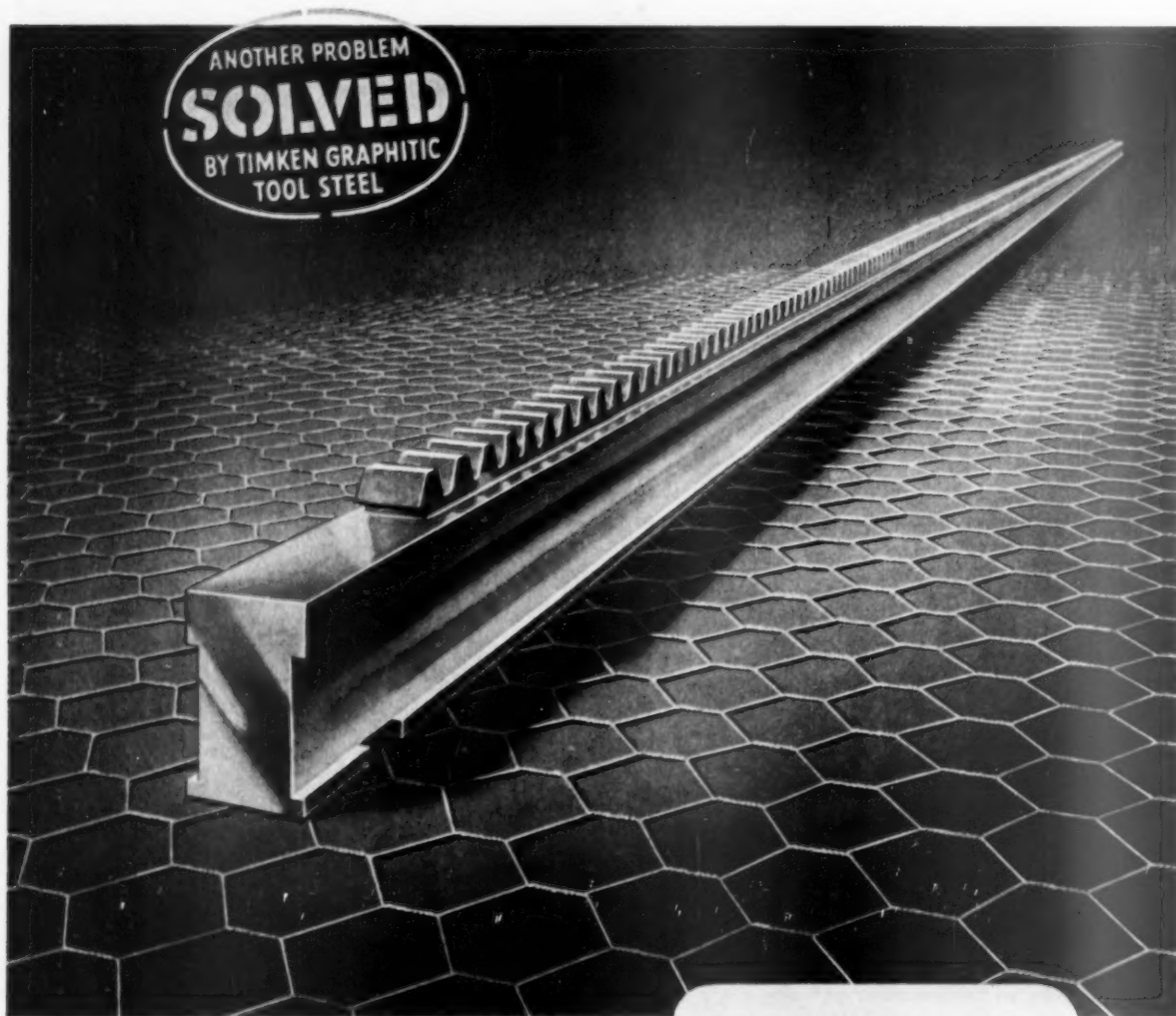
As specialists in fine alloy steel and seamless tubing, Timken metallurgists

were given the problem. They recommended one of four graphitic tool steels developed by the Timken Company. Its name: Graph-Mo. Results: amazing.

Racks made of Graph-Mo steel came out of the hardening operation straight and accurate. Because of the diamond-hard carbides in Graph-Mo, the teeth set new records for wear. And as a bonus, the free graphite in the Graph-Mo tool steel cut 30% off the machining time

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Recorded in the Timken Company files are many hundreds of problems as tough as this or tougher. They can all be stamped: "Solved—by Timken Steel". Next time you have a tough steel problem, write: The Timken Roller Bearing Company, Steel and Tube Division, Canton 6, Ohio. Cable address: "TIMROSCO". Tapered Roller Bearings, Alloy Steels and Seamless Tubing, Removable Rock Bits.



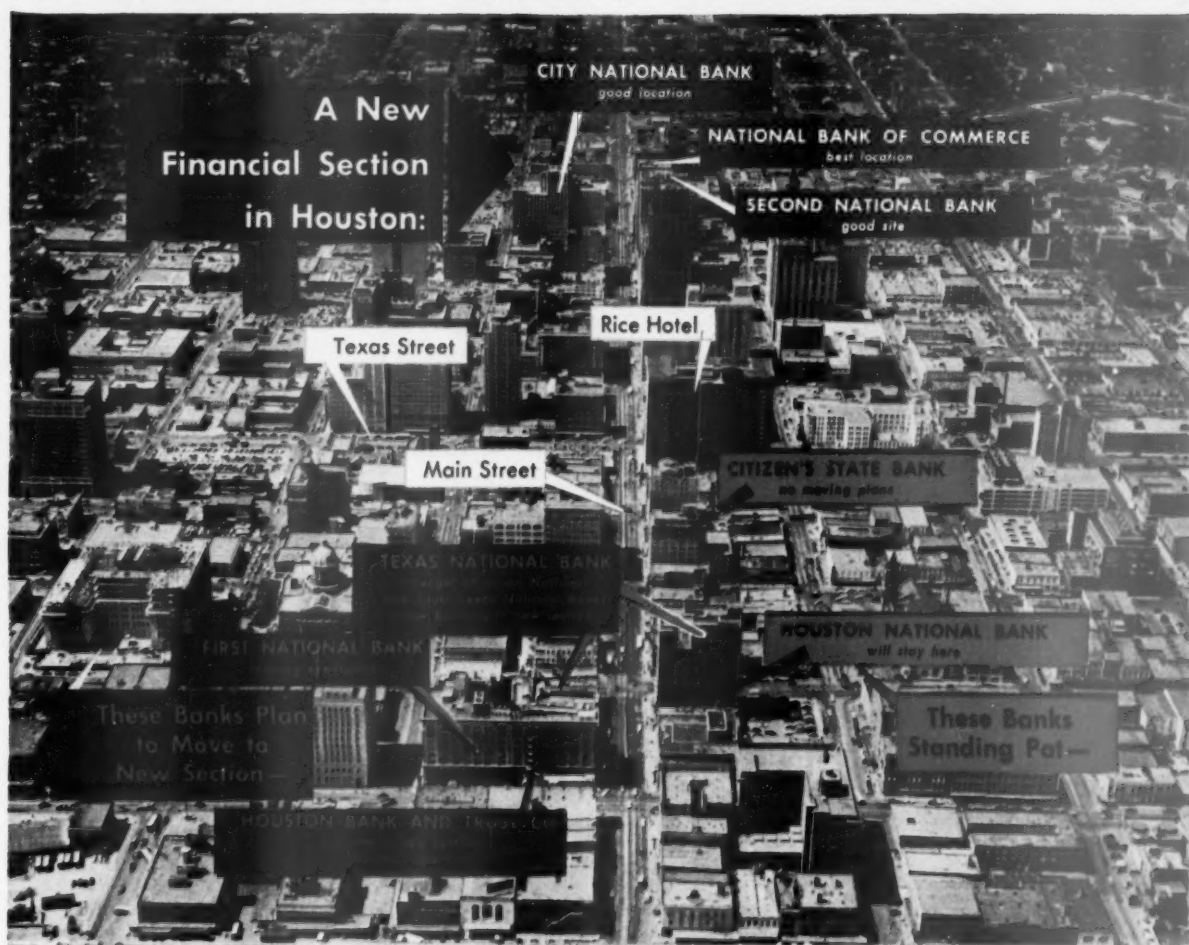
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# FINANCE



## Houston Banks: Moves and Mergers

In restless Houston, even the banks are moving around. Physically, a good many of them are making the jump from the old downtown section to the new (picture). Financially, they show signs of moving together: There has been one big merger already this year, and another is reported on the fire.

Much of the turmoil springs from the rapid postwar growth of banks, along with everything else, in Houston. Total deposits on June 30 were close to \$1.5-billion; eight years earlier they were \$901-million.

• **Rival Dallas**—Despite this swift growth, Houston still finds itself trailing arch-rival Dallas in total deposits—by \$1,467-million to \$1,591-million. In a state where bigness is a fetish, it's a sore thing for Texas' largest city to trail in banking. What makes it even more sore is that the two largest banks in Dallas dwarf the largest in Houston.

Thus just plain pride is a powerful spur to the merger trend in Houston. No one of the existing banks in Houston can reasonably expect to top the biggest in Dallas, merely by natural growth. Dallas' First National (\$502-million deposits) and Republic National (\$482-million) have too long a lead. On top of that, Dallas is a major wholesaling center, is the home of the Federal Reserve's 11th District, and serves a larger hinterland than Houston. Indeed, out-of-town deposits, in which Dallas generally leads Houston by \$100-million to \$250-million, pretty well account for its over-all edge.

• **The Big Five**—With those disadvantages, even Houston's biggest bank—Jesse Jones' National Bank of Commerce with deposits of \$274-million—could hardly catch up single-handed. A merger, of course, would be a different story. And Houston's banks are

nicely balanced for merger purposes. There are five of them in the \$200-million to \$300-million class. Besides the National Bank of Commerce, there's the City National (\$255-million), the First National (\$248-million), the Second National (\$231-million), and the Texas National (\$200-million). Lump any two of these together and you'd be within hailing distance of the two Dallas giants.

Wise old owls among the bankers say that just such a merger is in the cards—the union of the First and Second Nationals, now ranking third and fourth. Their combined deposits of \$479-million would be snapping at the heels of Dallas.

The merger trend is already under way. Texas National was created earlier this year by the merger of two almost equal-sized banks, the Union National and the South Texas National. The

# THE PEN THAT FILLS ITSELF



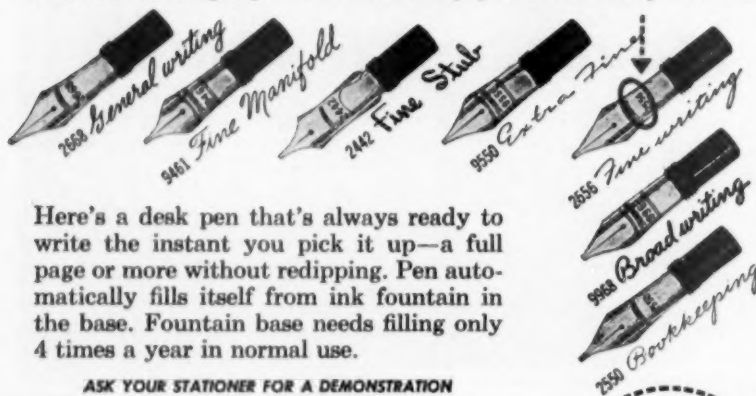
Finger grip never touches ink. No chance for ink to touch you.

Fountain base "ink-locked" against accidental spillage. Only the pen unlocks the ink.

Fountain base holds 40 times more ink than ordinary fountain pen. Won't leak. Won't flood. Easy to clean as a saucer.

Model 444

CHOOSE the right point for the way you write...by number



Here's a desk pen that's always ready to write the instant you pick it up—a full page or more without redipping. Pen automatically fills itself from ink fountain in the base. Fountain base needs filling only 4 times a year in normal use.

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ONLY A FEW OF THE MORE POPULAR POINT STYLES SHOWN

"... answer, local wisdom holds, would be merger with First National ..."

HOUSTON BANKS starts on p. 129

deal was engineered by Harris McAshan, who took over as president of South Texas National in 1948 and now heads the offspring bank.

• **Talks End**—The much bigger merger of First and Second Nationals has been under discussion for more than a year. But just last week the banks announced jointly that the merger was off because of too many complications. Despite that flood of cold water most Houston banking people still say that the merger makes sense and will happen some day.

Some of the factors that make the move so logical arise from the physical migration of Houston banks, the shift southward out of the old business section to the new.

First National's building is in the old section. The bank is anxious to move, but does not own a suitable site for a new building.

Second National, on the other hand, is now in the newer section, but occupies an old building in which its offices are scattered over eight floors in uneconomical confusion. It is also short on parking space for customers.

Now, Second National owns a very good bank site about a block and a half from its present location. It would like to run up a new bank building there, complete with parking garage. Even here there's a catch. The bank that Second National wants to build would be too large for its needs. The answer, local wisdom holds, would be a merger with First National, which would make the new building a perfect fit.

• **Ties That Bind**—A nongeographical factor also pushes toward the merger. W. B. Bates, board chairman of First National, and John H. Freeman, vice-chairman of the Second National board, are senior partners in the law firm of Fulbright, Crooker, Freeman & Bates—which does legal work for both banks. Another tie is that the M. D. Anderson Foundation and some individuals are large stockholders in both banks.

• **Ban on Branches**—There's some vinegar, though, on this peaches-and-cream. For one thing, Texas law prohibits branch banking. That means that First and Second National could not merge and then continue operating in their present buildings, while the new bank was being constructed. The present buildings are about six blocks apart, ruling out the technicality of tying them together by tunnel or pneumatic tube, and treating them as one building.

Incidentally, that is precisely what



Army Ordnance Photo

## How *vapor-from-paper* stops rust

**VPI\* eliminates all greasing . . . all degreasing.**

It's the simple, clean way to ship or store metal products at less cost. Ordnance protects Army weapons with vapor from paper, as the photo shows. And most every branch of the metalworking industry uses Angier VPI Wrap, too.

How it works and what VPI can save you are told in a **FREE** booklet. Just send us the coupon with your letterhead.

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Send facts on Angier VPI Wrap as applied to:

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\*Vapor rust preventive. Angier VPI Wrap (2 gram) is made to conform to the government's specification on volatile rust inhibitors.



**Does *your* management know about VPI?**





would  
you  
bet on  
*half a horse?*

Of course you wouldn't! So, why bet on a half-efficient dust collecting system? With a DUSTUBE Collector you can be assured of virtually 100% efficiency . . . not only in trapping the visible dust particles but also those in the extremely fine micron size ranges that escape many other dust control systems. Dustubes remove dust at its source, before it permeates the atmosphere.

The unique high efficiency of Dustube Collectors is proven throughout industry with results like this: "The state health department recently made a dust count in our plant and reported that . . . we had one of the lowest counts in our industry." This efficiency is also reflected in the attractive profits effected in salvaging value materials. A cotton oil plant, for example, is saving \$7,000 annually, a woodworking plant \$6,000 yearly and a midwest chemical company \$112,500 annually.



Send for this 28-page Dustube Brochure showing typical applications in 18 major industries.

**American**  
WHEELABRATOR & EQUIPMENT CORP.  
461 S. Byrkit St., Mishawaka Ind.



Texas National is doing. It is in business at both the old South Texas National and Union National banks, while its new 20-story building is being finished. But the old buildings were right across the street from each other, and a pneumatic tube was a cinch to tie them together.

• **And Jones, Too**—Quite apart from the talk of a merger of First and Second National, there are rumors that Jesse Jones may be shopping around for another bank or two. It was just after the War that Jones' National Bank of Commerce moved into Houston's top spot, ahead of First National (which has since fallen to third place behind fast-growing City National). Houstonians say that Jones is no man to let his bank slip back into second place, which right now would be its fate if First and Second National merged.

At one time Jones is known to have gone shopping for a merger. A few years ago he felt out South Texas National. Later, his people talked merger with First National. The fact that nothing came of it doesn't rule out some new merger operation.

The National Bank of Commerce has an ideal location on Main Street, right in the heart of the newer downtown district. Likewise, it has ample customer parking space, and is able to pick up more building or parking space if it needs to. All these advantages are due to the prophetic eye that Jones cast on Houston's development years ago.

• **Moving Days**—Meanwhile, other banks are working on plans to move into the newer business district. Texas National will shift to its new building and parking garage as soon as they are completed, in 1955. The new setup is about six blocks down Main Street from the present site.

First National's desire to move has already been announced, and something will probably come of it before long, merger or not.

Houston Bank & Trust Co. (assets \$17-million) owns a piece of property a mile south of its present location, and plans a new building.

If Houston, First National, and Texas National (with two buildings) all move out of the older business section, only the Citizens State Bank (\$34-million) and Houston National Bank (\$46.9-million) will be left in the area.

The Citizens State has said nothing about moving. Houston National says definitely that it is staying put, and spending \$400,000 on additional parking and drive-in facilities. Its president, Melvin Rouff, believes the north section of the city is in the midst of industrial and residential expansion. He feels that his bank will reap a rich harvest of new accounts, especially after some of the other banks have moved away.



## Wire rope? What's that got to do with us?

A lot more than you might think, folks. Consider, for example, the heating in your home . . . the warmth that keeps *her* snug and comfortable through a wintry night. Whether you use coal, oil or gas—wire rope is an indispensable part of the equipment that probes the earth's depths to bring this comfort to you. Chances are, it may be Wickwire Rope. Because for

over half a century Wickwire Rope has been an outstanding favorite with men in the mining and petroleum industries. Like users in numerous other lines of business, these men know that for unfailing performance, longer life and more economical service—there's nothing to match the quality and care that go into the making of WICKWIRE ROPE.

A YELLOW TRIANGLE ON THE REEL IDENTIFIES WICKWIRE ROPE

THE COLORADO FUEL AND IRON CORPORATION—Abilene (Tex.) • Denver  
Houston • Odessa (Tex.) • Phoenix • Salt Lake City • Tulsa

PACIFIC COAST DIVISION—Los Angeles • Oakland  
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WICKWIRE SPENCER STEEL DIVISION—Boston • Buffalo • Chattanooga  
Chicago • Detroit • Emlenton (Pa.) • New Orleans • New York • Philadelphia

1792



**INDUSTRY Lives by the**

**INCH**



First  
Metallic Standard  
"Iron Ulna"  
of Edward I  
of England  
13th Century

Two basic fundamentals of all modern mechanical equipment manufacture are (1) Standards of measurement and (2) Devices to apply those standards.

Without them, interchangeability could not be achieved.

Without them, the production line would be impossible.

Without them, usable replacement parts couldn't be made.

Without them, the majority of mechanical assemblies would be economically prohibitive in human effort and time.



Palmer's  
Micrometer 1860's



Johansson  
Gage Blocks, 1890's

Without them, science could never have advanced beyond mere speculation, and engineering would be unknown.

Standards of measurement are made by law, and tend to be static. Measuring devices are created and continually improved by ingenuity superimposed on practical experience.



The Precisionaire  
Flow Type  
Air Gage, 1939

Sheffield has had the privilege of active participation in the progress of precision which has brought the United States to outstanding leadership in this field.



The Visual Gage  
Incorporating the  
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Early 1930

**Industry lives by the inch.**

Gage Division, The Sheffield Corporation, Dayton 1, Ohio, U.S.A.



## State Tax Take . . .

. . . In U.S. for latest fiscal year climbs 7%—to \$10.5-billion. City revenues jump almost 9%.

The states are reaching deeper and deeper into the pockets of their residents.

Tax revenues collected by the 48 state governments in the fiscal year ended June 30 total over \$10.5-billion, an increase of \$685-million—or 7%—over the 1952 fiscal year.

The 1953 figure equals \$68.04 for every man, woman and child in the nation, according to Census Bureau statisticians. By contrast, collections in 1942 were only \$3.9-billion, or \$29.50 per capita.

• **Hopeful Note**—If it's any comfort to the individual taxpayer, however, the Census Bureau observes that most of the latest year's increase in state tax take is the result of rising prices and increased economic activity, rather than new taxes or boosts in previous rates.

• **Breakdown**—Biggest source of state tax revenue in the 1953 year was the sales and gross receipts tax, which brought in almost \$6.2-billion, and cost residents \$40.01 per capita. General sales levies averaged \$15.70 per person, while gasoline taxes nicked the residents' pocketbook for \$13.02, tobacco \$3.01, alcoholic beverages \$3, and other sales taxes \$5.28.

Vehicle and operators' licenses brought in over \$1-billion for the states; the per capita cost was \$6.53.

State income taxes levied on individuals raised \$969-million, or \$6.25 per capita. Corporations paid state income taxes of \$810-million.

The final figures on state revenues obtained from nontax sources have not yet been compiled by the Census Bureau, but in the fiscal 1952 year the states took in nearly \$7-billion from such sources. Included in this figure was \$2.3-billion received from the federal government and almost \$1.6-billion from payments for unemployment compensation.

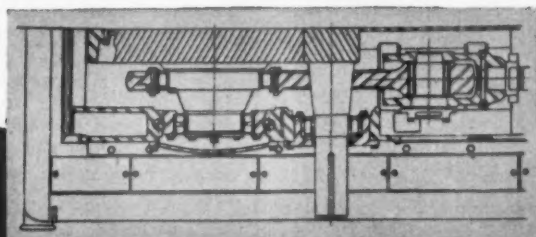
• **Cities**—While the tax take of the states was climbing, revenues collected by cities was rising even faster.

Total revenue of the 481 largest cities in the latest fiscal year, according to the Department of Commerce, added up to nearly \$6.6-billion, an increase of 8.8% over the preceding year. The 481, which have over 25,000 population each, take in about 35.5% of all local government revenues.

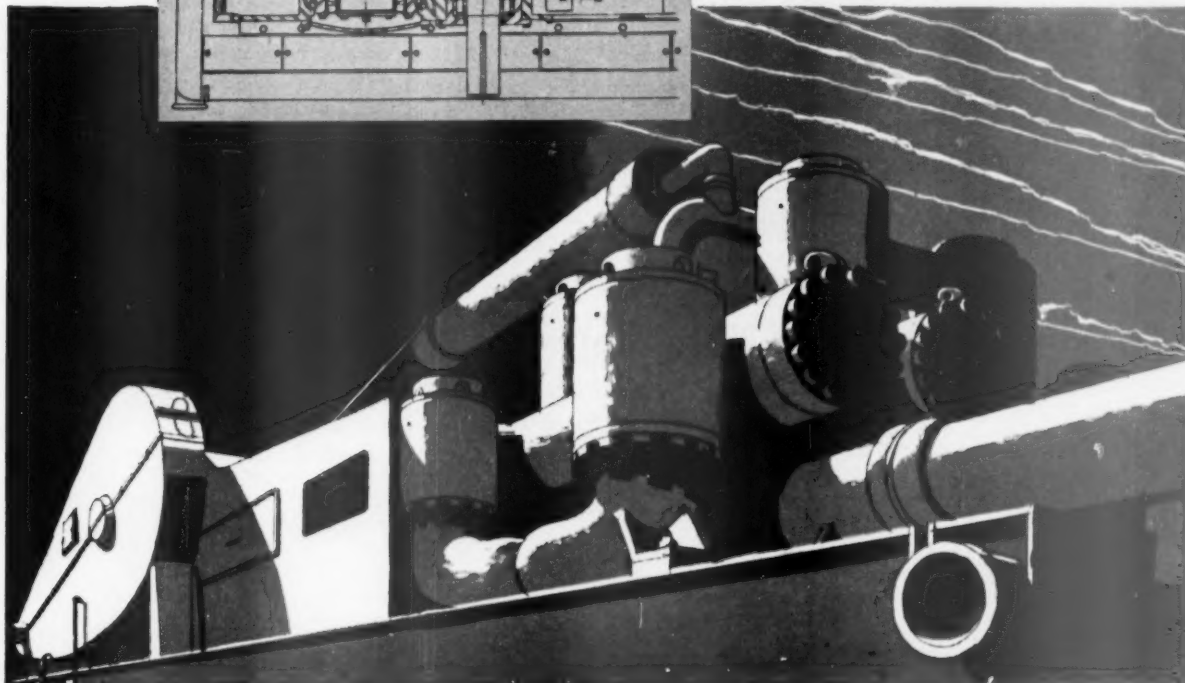
Local taxes provided about \$3.5-billion of the revenues of the group, and property taxes almost \$2.6-billion.



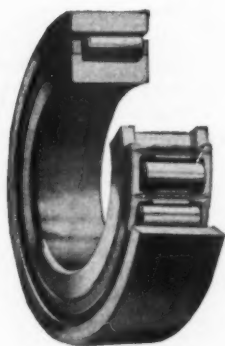
# T O R R I N G T O N   B E A R I N G S   A T   W O R K



*Precision-ground TORRINGTON Radial Roller Bearings on the eccentric-crank of the Emsco D-850, world's most powerful slush pump, keep 850 hp flowing smoothly and efficiently.*



## Specified for the world's most powerful slush pump!



Bearings for the eccentric-crank of the world's most powerful slush pump—the 850 hp Emsco D-850—must be built to take a beating.

That's why Emsco specified TORRINGTON Radial Roller Bearings.

TORRINGTON Radial Roller Bearings are specially designed to cut friction under high radial loads. Their cast-bronze cages are *land-riding*. Their contact surfaces are *precision-ground*.

Results: free flowing power, longer bearing life.

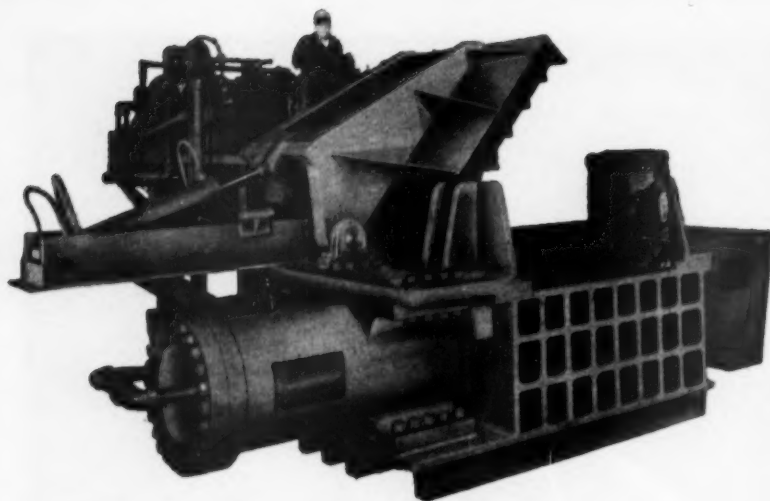
Also specified were self-aligning TORRINGTON Spherical Roller Bearings for the main shaft and rugged, compact NCS Needle Bearings for the crosshead. Thus maximum operating efficiency and minimum operating costs were doubly assured.

Specify TORRINGTON Bearings for your own pumps—and for all your other oil-field equipment. There's a precision-ground TORRINGTON Bearing for every application.

THE TORRINGTON COMPANY  
South Bend 21, Ind.      Torrington, Conn.

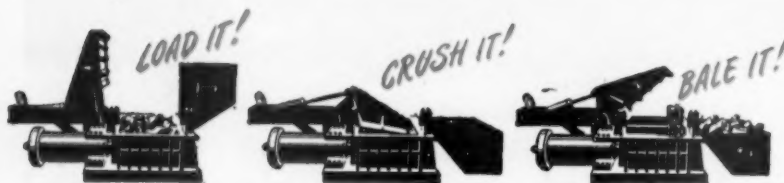
**TORRINGTON** *RADIAL ROLLER* **BEARINGS**

Spherical Roller • Needle • Tapered Roller • Straight Roller • Ball • Needle Rollers



## Here's the nearest thing to Automatic Scrap Metal Baling!

WHEN YOU BUY a Dempster-Balester you not only get a press built to take the punishment of baling scrap metal consistently day-in and day-out . . . bale-after-bale, but you also get the nearest thing to automatic baling. The Dempster-Balester's LOAD IT, CRUSH IT, BALE IT cycle (illustrated below) is a simple 1-2-3 continuous operation.



1—Skip Pan LOADS charging box. 2—Skip Pan returns to loading position while Auxiliary Compression Door CRUSHES scrap. 3—As Compression Door returns to upright position, charging box door closes . . . scrap is BALED and ejected. As each cycle ends another begins.

Without question, Dempster-Balesters are the simplest, most efficient presses baling scrap metal today! And you have six to choose from—three standard and three high speed models that turn out high density bales in capacities to meet any requirement up to 10 tons per hour. Write to us for complete information. A product of Dempster Brothers, Inc.

Sold in Canada by W. P. Favorite  
Company of Canada, Ltd., 418  
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Mfg. in Canada by Hamilton Bridge  
Company, Ltd., Hamilton, Ontario



**DEMPSTER BROTHERS, 493 Dempster Bldg., Knoxville 17, Tenn.**

## FINANCE BRIEFS

Wall Street is pleased with the way investors absorbed offerings of more than \$400-million of new securities last week. The one brief period of stickiness quickly disappeared. By the weekend, most of the securities, which included close to \$300-million of corporate bonds and the \$125-million tax-exempt New York Thruway issue, had been sold.

Dividend payments by U.S. corporations last month totaled \$221-million, a decline of 4½% under the \$232-million paid out 2 years ago, according to the Commerce Dept. The dip centered in manufacturing; quite a few companies which made payments in August a year ago, are now postponing action until December.

Home mortgage rates and terms during the remainder of 1953 are expected to continue about as at present, says Charles L. Clements, president of the United States Savings & Loan League. Clements expects interest rates to remain at current levels. Down payments will run 10%-15% on houses up to \$12,000 in price, around 20%-25% on those in the \$15,000-\$20,000 range, and more for houses costing over \$20,000.

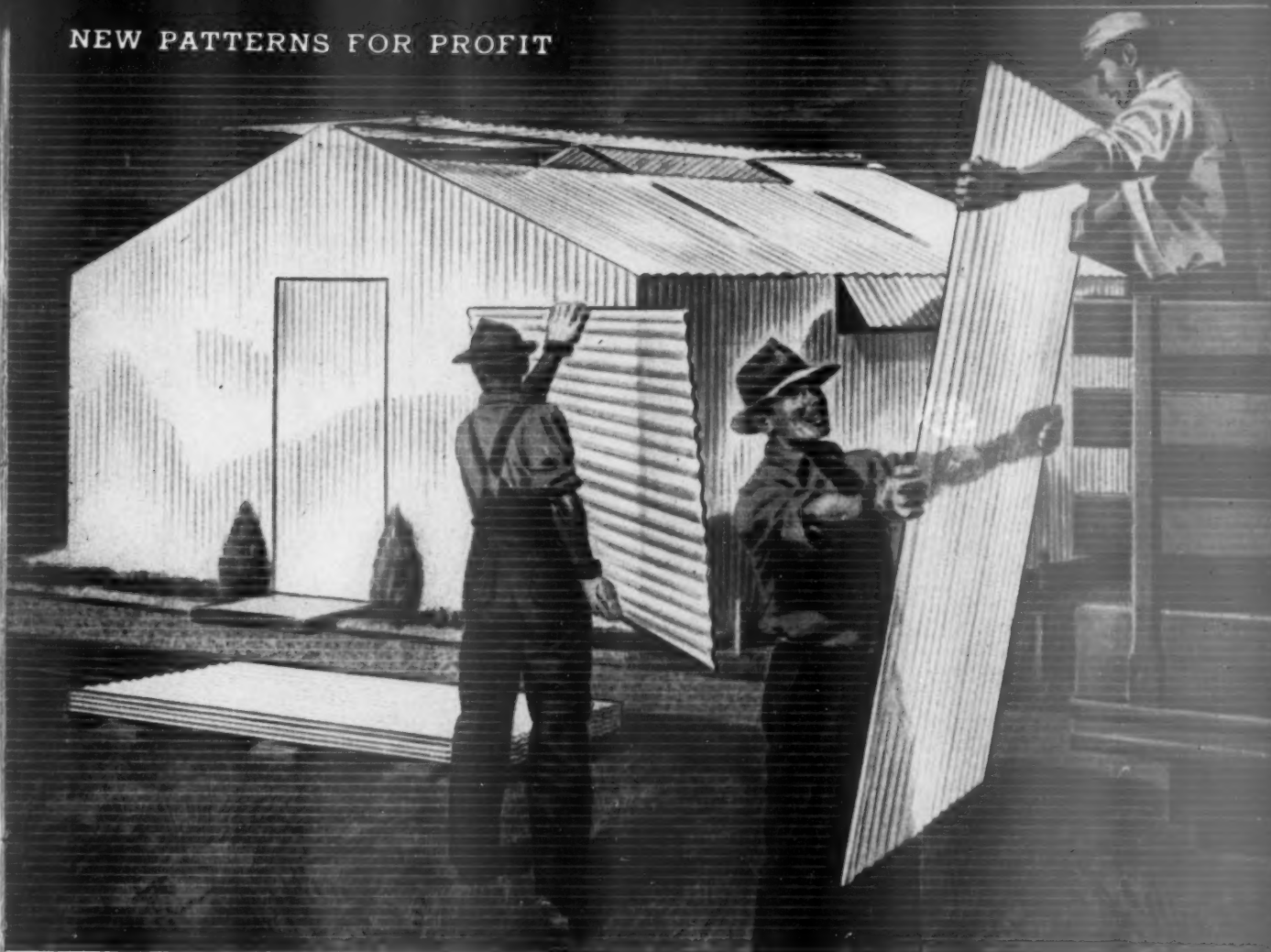
Financing: Public Service Electric & Gas Co. (N. J.) is planning the sale late next month of 800,000 shares of common stock, no par value, and \$30-million of first and refunding 30-year mortgage bonds. Proceeds will be used to retire short-term bank loans and for property additions and improvements.

W. R. Grace & Co. says it has bought 180,000 shares of Davison Chemical common under its offer of \$40 a share, and now owns over 51% of Davison's outstanding common shares.

Small Business Administration, which succeeds the Reconstruction Finance Corp., this week drew up, then dropped a plan to charge 6% interest on direct loans, or 1% above the RFC rate. Interest, SBA now says, will be set at an "appropriate level."

August fire losses for the U.S. hit an all-time monthly high of nearly \$108-million as a result of the General Motors transmission plant fire at Livonia, Mich. The loss there alone may be \$70-million. The over-all figure compares with \$56-million for August last year, and nearly \$75-million for the month of July.

## NEW PATTERNS FOR PROFIT



### Will Construction of Shatterproof Greenhouses Add New Zip to the Building Boom?

Something new is ready for an old business: shatterproof plastic panels for commercial and private greenhouses.

The "clear" translucent panels transmit 80-90% as much light as pure air. They are weather-resistant and strong . . . will support 150-175 lbs. on 24" centers. Hail or baseballs just bounce off! The panels won't rot, boring insects and termites do not attack the material. And most important, greenhouse maintenance is cut to the vanishing point.

Greenhouse operators who "pioneered" with reinforced plastic greenhouses report surprising results: Because of *diffused* light, leaf burn is controllable; shade-loving and sun-loving plants grow well side-by-side.

Builders can tap a vast undeveloped "hobby" market.

Commercial greenhouse manufacturers can capitalize on the huge replacement market among commercial growers.

If you're in the building business (or if you'd like to build a greenhouse) send 25 cents in coin or stamps for the detailed, illustrated plan of the 16' x 24' greenhouse shown in the illustration. The speed and ease of construction will give you lots of ideas on how you can use these panels, PLUS a ready-to-use greenhouse plan. Except for four 2" steel pipe corner supports in 12" concrete footings, it is entirely aluminum and reinforced plastic. The greenhouse is expandable in any direction, reduces framing at least 25%, and requires no concrete or wood sills — because the reinforced plastic panels go right into the ground.

Monsanto is a major producer of **STYRENE MONOMER, MALEIC and PHTHALIC ANHYDRIDES** . . . basic chemicals used in the manufacture of polyester resins. Translucent building panels made of polyester resin and fibrous glass are just one of hundreds of products made of these materials. For more information on how polyester glass fiber laminates can be used in general manufacturing . . . write or call **MONSANTO CHEMICAL COMPANY, TEXAS DIVISION, TEXAS CITY, TEXAS.**

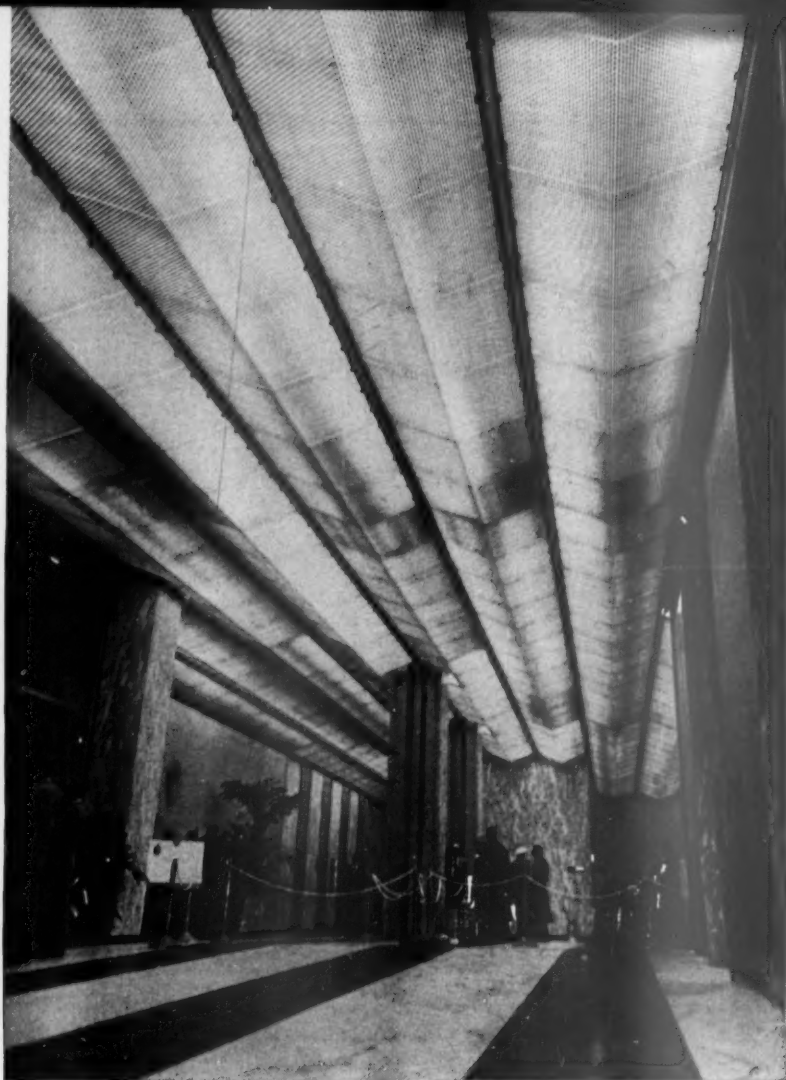


SERVING INDUSTRY...WHICH SERVES MANKIND





**ALUMINUM** clad, it's Aluminum Co. of America's new home-office building dedicated in Pittsburgh last week.



**SPECTACULAR SALES TOOL**, the building abounds with imaginative aluminum applications designed to give many metal-using visitors ideas, such as mesh ceiling . . .

## A Building to Crack



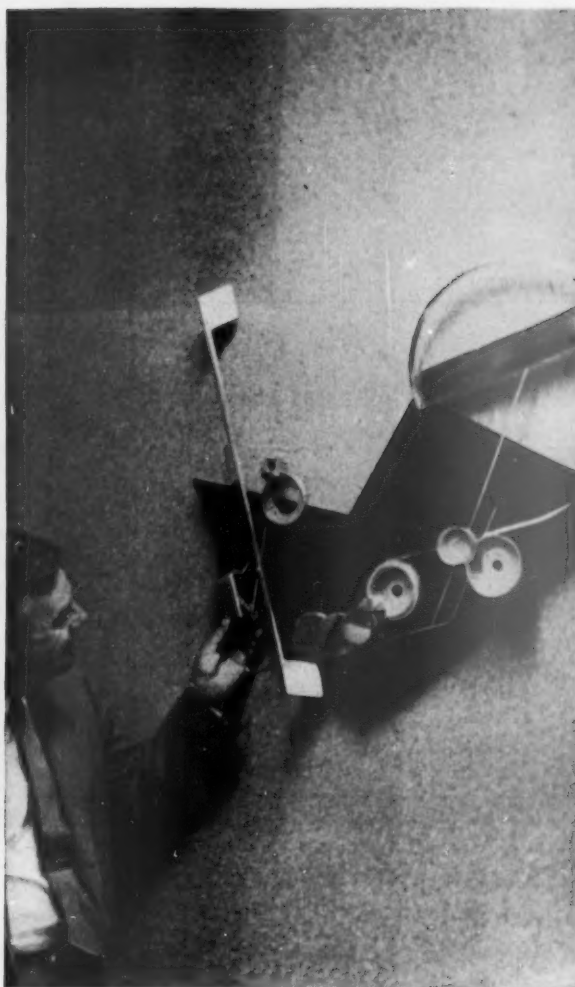
**ALCOA CREST** in floor gets oncover. Along with luring 8,000 to tours, Alcoa is turning out a promotional movie.



**FANCY WALL** covering of straw that's hard to clean suggests building's aluminum window frames keep out the dirt.



**CANTILEVERED STAIRWAY** that shows no welding marks, puts across point that metal can be welded attractively.



**ART ABSTRACTION** of aluminum extrusions dramatizes the fact that the metal is easy to form.

## the Metal Market

(Story continues on page 140)



**EVEN WINDOW SILLS** can be made of aluminum. Alcoa guide is quick to point out how pneumatic tube makes tight seal.



**CAST-ALUMINUM** drinking fountains may prove cheaper than those of stainless steel, had to be specially designed.



**SNAP-ON-BASEBOARD** that's easily removed for cleaning carpet is another product Alcoa structure plugs.

Antiques Acquire Value...

Symbols Gain Esteem...

Machines Just Wear Out

Time affects different things in different ways. But the finger of Time invariably deals harshly with machine tools.

On the one hand wear and tear take their toll. On the other, technical improvements leave old machines far behind in the continuing race for more efficient production.

Actually it costs money to give an ancient machine tool floor space. Money in terms of wasted labor dollars, excessive scrap and bogged-down production schedules.

Lees-Bradner, a leading manufacturer of hobbing and threading machines, will be happy to demonstrate how you can increase the efficiency of these operations in your plant.

Call in one of our representatives or contact Lees-Bradner direct. No obligation, of course



5H SPLINE HOBBER



7-A ROTARY HOBBERS



CR-DAN "D"



HT THREAD MILLER



12-S HOBBER



CARRIED AWAY, girl stumps Alcoa official with "aluminum" nail polish.

## Aluminum Array

(Story starts on page 138)

In Pittsburgh last week, Aluminum Co. of America dedicated an ancient dream—an aluminum-clad home-office building. In so doing, it formally put to work one of the most persuasive sales tools in the history of U. S. industrial marketing.

Specifically, of course, the building constitutes a striking plug for architectural applications of aluminum. Alcoa's publicity people have had a three-year field day with the structure's main features—aluminum skin panels, startlingly different windows, all-aluminum wiring, and vast piping system.

But as a sales tool the 30-story building goes far beyond architecture to promote the company's favorite product. A fast trip through the show-piece floors and suites will give any metal-user more ideas about aluminum than a dog has fleas.

Imaginative applications of aluminum ranging from abstractionist art to utilitarian devices lure the visitor's eye. They're designed to provoke questions that give Alcoa hosts an opening to hold forth on aluminum.

• Sales Angle—Alcoa, sensibly, didn't erect such a building solely to house its 1,500 central-office employees. A two-generation Alcoa dream has been the market which the building field would yield if you could make aluminum cheap enough—and learn how to alloy it, form it, and finish it properly. Alcoa has bet the price of a fabulously expensive building that it knows all this—and that the product can be sold.

Having dreamed, sweated, and paid for such a sales tool, Alcoa is now concentrating its efforts on maximizing



# Equipment for processing the Nation's food stockpile

*...is part of the  
"Blaw-Knox Job"  
for Industry*



When you sip a healthful, refreshing glass of orange or tomato juice the chances are that it was processed by Blaw-Knox equipment. What is true of these food-drinks is equally true of milk—or any fruit or vegetable that can be juiced or puréed. It is true, also, of many other food products, such as the extracting and processing of vegetable oils. For all of these, Blaw-Knox products and engineering services range from a single piece of equipment to a complete operating plant.

Blaw-Knox products and services listed at the right give a lift to production, performance and profits in such industries as—Chemical, Ferrous and Non-Ferrous Metals, Radio and TV, Gas and Petroleum, Plastics, Pulp and Paper, Construction and Public Utilities. Write for descriptive literature on any Blaw-Knox product or service.

## MEMBERS OF THE BLAW-KNOX "FAMILY" AND SOME OF THEIR PRODUCTS

### Blaw-Knox Equipment Division Blawnox, Pa.

Concrete Road Paving Machinery  
Clamshell Buckets  
Contractors Equipment  
Gas Cleaning Equipment  
Open Steel Flooring  
Radio, TV and Transmission Towers  
Steel Forms for Concrete Construction  
Chemical and Process Equipment  
Water Cooled Equipment for  
High Temperature Furnaces

### Bufflovak Equipment Division Buffalo 11, New York and Mora, Minn.

Machinery for the Chemical and Food  
Processing Industries

Specialized Machinery for the Dairy Industry

### Chemical Plants Division Pittsburgh 30, Pa.

Complete Chemical, Petrochemical, Industrial  
and Petroleum Plants

### Facts Construction Equipment Division Hunda, New York

Black Top Road Pavers  
Concrete Road Pavers

### Lewis Machinery Division Graveton, Pa.

Rolling Mills and Auxiliary Machinery for  
Rolling Ferrous and Non-Ferrous Metals

### National Alloy Division Blawnox, Pa.

Alloy Steel Castings for Extreme  
Temperatures, Abrasion and  
Corrosion Resistance

### Power Piping and Sprinkler Division Pittsburgh 33, Pa.

Prefabricated Piping Systems for High  
Pressures and Temperatures. Pipe Hangers  
Automatic Sprinkler Systems for  
Fire Protection

### Rolls Division

(Pittsburgh and Lewis Rolls)  
Pittsburgh 1, Pa.

Rolls for Steel and Non-Ferrous Rolling Mills

### Union Steel Castings Division

Pittsburgh 1, Pa.

Heavy Steel Castings



### BRANCH OFFICES:

Birmingham 3, Alabama  
Chicago 3, Illinois  
Philadelphia 3, Pennsylvania  
New York 17, New York  
San Francisco 5, California  
Washington 5, D. C.  
Tulsa 1, Oklahoma  
Export—New York 17, New York

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# BLAW-KNOX

*Company*

FARMERS BANK BUILDING  
PITTSBURGH 22, PA.

**GRAYBAR reports to management on**

# LIGHTING

\* from actual case history studies

up to **10.5% MORE PRODUCTION WITH LESS SPOILAGE**

up to **32% REDUCTION IN ACCIDENT FREQUENCY**

up to **39.6% SAVINGS IN SPOILAGE REPAIR COSTS**

up to **5.5% INCREASE IN CLERICAL EFFICIENCY**

up to **75% SAVINGS IN LAMP MAINTENANCE COSTS**

**PROTECT PROPERTY** — eliminate pilferage and damage

**IMPROVE EMPLOYEE MORALE** — no shift-end slump

up to **200% ANNUAL RETURN ON LIGHTING INVESTMENTS**

(in dollar value terms of more production and less spoilage)

\* If lowered production costs (from results like these) are one of your management aims in 1953, contact your near-by Graybar office. Local Graybar Representatives will corroborate and amplify these statements with hard, cold facts that demonstrate how you, too, can improve plant-wide operations through better lighting. For complete information plus a prompt, efficient supply service on any lighting need, call Graybar first.

Better seeing conditions offer a proved investment that cannot be ignored. Your employees work better and are less fatigued at shift end — you reap the results of increased efficiency.

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customer exposure to it. That job actually got under way months ago with publicity that drew more than 2,000 architects and engineers to the building while under construction. Over the past two weeks, some 5,000 Pittsburghers have swarmed in for a tour. Now Alcoa is sending letters to about 1,000 "out-of-town blue chips" inviting them to inspect the building when next they visit Pittsburgh. And a carefully contrived booklet has gone out to a broad group concerned with public and commercial buildings.

On the side, there will be routine customer visits. And for community relations purposes, Alcoa will give scheduled tours daily.

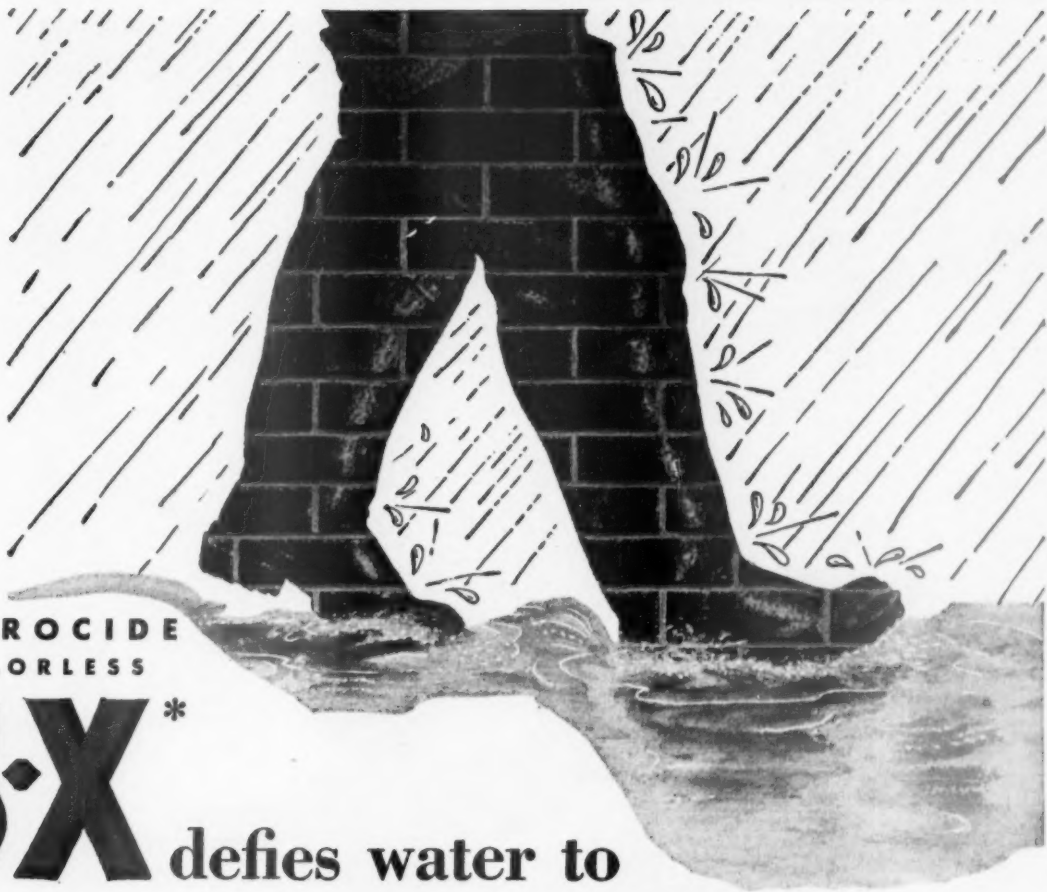
But all of this is only the smaller part of the job of developing the architectural aluminum market Alcoa foresees. During construction, 28 hours of motion pictures were made. They'll yield at least one film. Copies will go out to the architectural salesmen in each of the company's 58 sales offices. They will get busy spreading Alcoa's version of the metal-clad building story around that part of the trade that can't make it to Pittsburgh.

The structure was designed to meet the building codes of every city of 100,000 or more people. Complete engineering and test data is in the hands of the American Institute of Architects. Yearly, the company plans to publish an exhaustive report of how the new, unconventional applications of aluminum are working out. Says one of the men most vitally concerned, "It'll have to be honest if it's published at all—and it's going to be published." Moreover, Alcoa has contracts with all suppliers who developed aluminum devices for the building. Under the contracts it can make the data available to any fabricator.

In the large commercial building business, the company figures the investor is as vital as the architect and engineer. It plans to lure this group to the site whenever it can to give investors a first-hand story of aluminum as a building material.

• **Fast-moving Market**—A look at the company's production and sales figures justifies all the intense activity. Currently 22% of its product—exclusive of U.S. stockpile requirements—goes to the building field.

And a glimpse at the skyline of several American cities shows what looks like a fast-maturing market. Alcoa first decided to build an aluminum-clad skyscraper only four years ago. Today, the company claims, there are 52 large, multi-story, aluminum-clad buildings completed, under construction, or on the drawing boards. One that will use 33% more metal than the Alcoa building was committed to aluminum last week.



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- Hydrocide Colorless S-X proved superior in these respects to other water repellent products tested.\*\*

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**DUE NEXT YEAR** on commercial airways is the H-21 transport helicopter, now a workhorse for the Air Force and the Army. Fastest helicopter yet flown, it's one ace up the sleeve of Frank N. Piasecki. Another which is . . .

## Piasecki: Getting Set for Mass



**MOCKUP** gives Piasecki man first chance to see how a new design will look.



**CLOSE HAND WORK**—lots of it—goes into producing the helicopter.



**BLADES** are for twin rotor setup that raised tough engineering problems.



**DUE IN FIVE YEARS**

commercially is 40-passenger H-16 transport, the biggest yet. The first model was unveiled last week. Almost the size of the Convair-Liner, this may prove an ideal craft for airlines.

# Transportation

(Story continues on page 146)



**TRANSMISSION** system took a lot of trial and error in company's laboratories.



**SUBASSEMBLIES** and components get together on assembly line. From here, completed 'copters go to flight line for exhaustive final acceptance tests.

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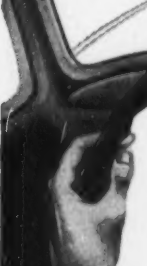


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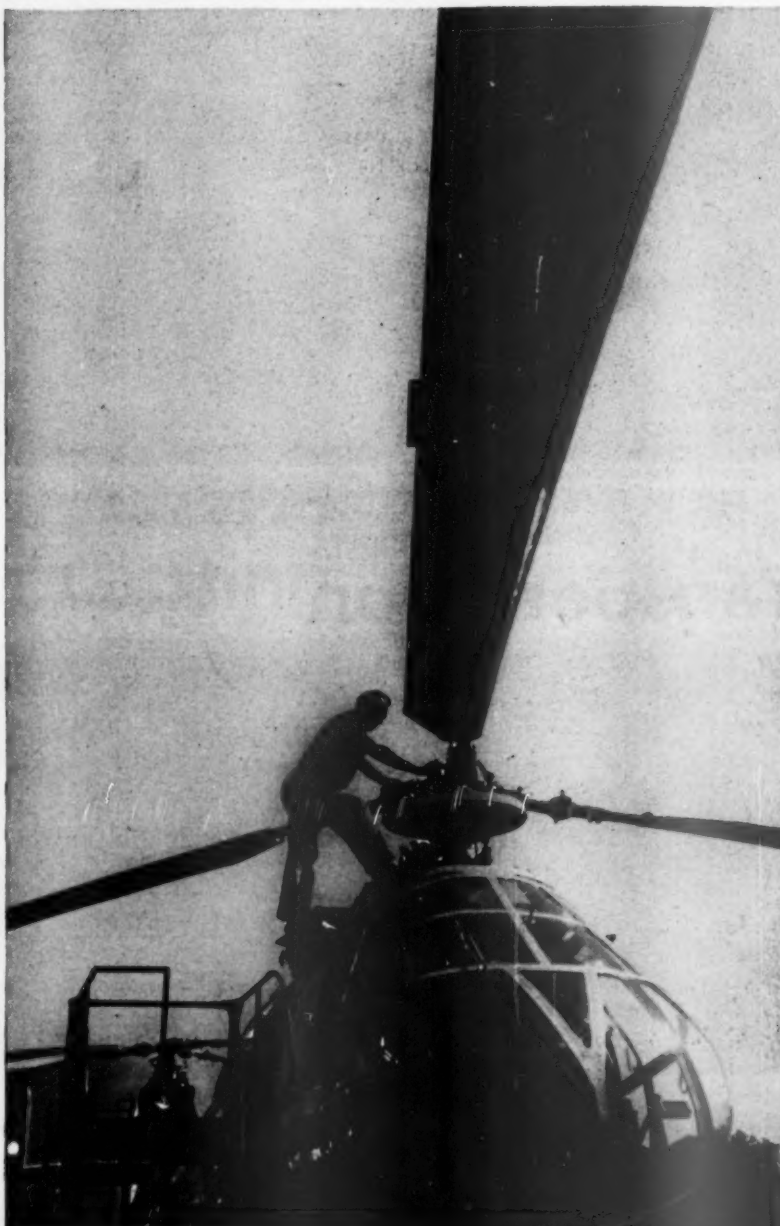



**TALKING:** Frank Piasecki likes to spell out 'copter's long-range prospects.



**LISTENING:** No ivory-tower man, he's always ready to give ear to a problem.

## Staking Their Future on







CONSULTING: Piasecki (left) leaves production to Don Berlin, president (right), while sales and service fall to vice-president Harry Pack. All of them are . . .

## the Transport 'Copter

(Story starts on page 144)

To most businessmen, the word aircraft means something that flies straight and level—and the faster the better. So an aircraft that flies straight up, and boasts of being able to fly very slowly, sounds intriguing—but not very practical. Certainly not practical enough to bet \$21-million on.

• **All for 'Copters**—Yet that's exactly what Piasecki Helicopter Corp., of Morton, Pa., is doing. Piasecki (gross assets: \$21-million) is one of the three major makers of helicopters in the country. It is the only one that has all of its eggs in the helicopter basket.

• **Sikorsky Aircraft** is one of the four major divisions of United Aircraft Corp., and reportedly the smallest of the four at that, dollarwise.

• **Bell Aircraft Corp.** is actively engaged in several other aviation fields including supersonic planes and guided missiles.

Piasecki makes only helicopters. In fact, it makes only large transport helicopters. And it has no intention of even considering making anything except transport helicopters.

• **Double Market**—"Why should we?" asks founder and board chairman Frank N. Piasecki (cover). "Military demand for transport-type helicopters is bound to grow steadily—even in the absence of any military emergency. And we haven't even started to tap the commercial market yet."

That last statement is literally true. Not a single Piasecki helicopter has been flown commercially, either in common-carrier transport operations or by private operators. All of the company's output has been for the military. But the emphasis in the company's military work has always been on development of ever bigger helicopters for more efficient movement of troops

or large amounts of cargo. That means that when it is ready to go commercial—which won't be long now—it will be able to bypass the preliminary stage of small, relatively inefficient carriers and start right off with an aircraft that is in many ways very close to what the airlines today consider to be the ideal helicopter for their purpose (BW—May 9'53,p103).

### I. Eggs in His Basket

The first military model of that helicopter—the twin-engine YH-16—was rolled out for its first public viewing last week. It is far and away bigger than any rotary-wing aircraft that has ever been flown up to now. (Sikorsky's S-56, which will be unveiled in about six weeks, is almost as big.) The H-16's size is almost the same as the familiar Convair-Liner now being used by many airlines: Its fuselage is about 78 ft. long compared to the Convair's 79 ft.; it stands better than 25 ft. tall (to the tip of the tail rotor hub) against the Convair's maximum height of 28 ft. The H-16's over-all length including the rotor blades is 134 ft.—28 ft. longer than the DC-6 and 20 ft. longer than the Super Constellation.

Most details on H-16 performance are still restricted. The commercial version will be powered by gas turbines. Payload is in the neighborhood of five tons or slightly better—which means between 40 and 50 passengers—again directly comparable with the Convair-Liner, and right in line with what the airlines say they need to replace the DC-3 in local service and metropolitan-type operations.

• **H-21**—But the airlines probably won't be able to get their hands on H-16s in any quantity for at least five

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## "... airline operators can't afford to wait ..."

PIASECKI starts on p. 144

years—and even that would be fast work in the aviation business. In the meantime, though, Piasecki has a model already in production—the H-21—that probably will be flying commercially by the end of next year.

The H-21, according to Don R. Berlin, Piasecki's president, is "the first production model helicopter big enough to be generally usable as a transport." It is also the helicopter that early this month set new world speed and altitude records for rotary wing aircraft at the Dayton (Ohio) National Aircraft Show, and that is about to attempt a landing at the North Pole.

At present, the H-21 is being produced in three models: as a rescue craft and as an assault transport for the Air Force and as a cargo and personnel transport for the Army. In its latter two versions it can carry 20 passengers. It is 44 ft. long, weighs over four tons, has a useful load of over two tons. Powered by a single Wright R-1820 engine rated at 1,425 hp., it can travel at better than 100 mph., at altitudes above 10,000 ft.

• **Second Best**—Chief drawback of the H-21 from the standpoint of airline operators is that it has only one engine. Since no engine can ever be 100% reliable, there's the problem of what happens if that engine conks out. One of the major features of any helicopter, of course, is its ability to windmill slowly and safely down to earth after a complete power failure—"autorotate" is the technical term. Nevertheless, the pilot of a single-engine commercial 'copter has to be sure he can always see and reach a safe place to land. That means that for single-engine helicopters, flights at night or over built-up or mountainous areas are virtually ruled out. And most airlines hesitate to buy any aircraft they can't use at anytime or anywhere on their routes.

But, says Piasecki, "the airline operators can't afford to wait for twin-engine equipment before making a start." For one thing, he thinks their customers will demand some helicopter service long before 1958 or 1959, the earliest date when twin-engine craft will be commercially available. Besides, he says, the operators should be building up experience and know-how.

At least a few of them obviously agree with him. Sabena (BW—Jun. 6 '53, p. 148) and New York Airways (BW—Jul. 18 '53, p. 333), for instance, have both started scheduled passenger service with Sikorsky S-55s. But even Sikorsky will admit that the 10-place S-55 is far from

the ideal vehicle for profitable common-carrier operations. Piasecki figures his H-21 is the perfect vehicle to bridge the gap between the S-55 and the twin-engine helicopters of five years hence.

• **Expediting**—Right now, moves are being made in two directions to get his H-21 into commercial service. The military reportedly is working on arrangements aimed at getting experience with new equipment, finding out exactly what it can and can't do under all sorts of conditions. The only way to do this is to fly it regularly and steadily—seven days a week, five or eight or ten hours a day. Under normal conditions, the military just isn't set up to build up that kind of experience. So, since the H-21 is designed as a transport helicopter, it would be to the advantage of the military to farm out a few of them to transport operators, who would be able to give them the kind of use necessary for an "accelerated service test."

Many Army and Air Force people are aware of this, and the report is that they have already started negotiations leading toward some such arrangement with two or three commercial operators. No one will say what operators are being considered, but aviation people are sure that any such arrangement would include at least one metropolitan operator (New York Airways is the best bet) and one or two local-service airlines (Mohawk Airlines has shown the most interest in helicopters in the past).

So it's possible that H-21s will be flying for at least a couple of airlines within about six months. But only to carry mail and freight—they can't carry passengers until they've received an air-carrier certificate from the Civil Aeronautics Administration. Piasecki has already started negotiations with CAA that it hopes will bring that certification. It has submitted engineering drawings and specifications and first service reports.

• **Prospect**—If everything goes well on both these fronts, H-21s may be carrying passengers on regular airline schedules about a year from now. And once that happens, Piasecki hopes the military will adjust its procurement—as it has done in the case of the S-55—so that a portion of H-21 production capacity is available for commercial orders.

In the long run, when the larger, twin-engine ships are available to the airlines, Piasecki feels there will still be a big market for the H-21 or a ship of similar size and performance for industrial and contract-carrier use.

## II. Quick Trip Up

Piasecki Helicopter Corp. is only ten years old—only seven under its present name. It was first incorporated in Jan-

uary, 1943, as P-V Engineering Forum. (The "V" was for Harold Venzie, who had been collaborating with Piasecki from the very beginning of his work on the helicopter in 1940. Venzie is no longer with the company; the two men split when Venzie wanted to diversify—do subcontract work for the war effort, perhaps—and Piasecki insisted on concentrating all the company's efforts on helicopters.) The name was changed to Piasecki Helicopter Corp. in 1946.

The company's original 'copter, a small single-rotor job known as the PV-2, flew for the first time in April, 1943. It was the only single-rotor aircraft the company ever made, but on the strength of it Piasecki got its first government contract—to duplicate its rotor system for full-scale wind-tunnel tests. A few months later the company got a contract from the Navy to design and produce the first tandem-rotor transport helicopter, the XHRP-1, which flew successfully in March, 1945. The XHRP-1 was dubbed "The Flying Banana" because of its bent-in-the-middle shape, which has since been carried over into the H-21. It was an eight-passenger job, with a useful load of slightly under a ton and a maximum speed of about 90 mph. Actual deliveries of the HRP-1 to the Navy began in 1947. Perhaps 20 to 30 of this aircraft and its successor, the slightly bigger, slightly faster HRP-2, were built all told before output of the series was finally discontinued in 1949.

• **Chain of Design**—Even before the first HRP flew, however, the company had been experimenting with a different design: straight instead of bent in the middle, with a high tail to carry the second rotor. The first of these, the XHJP, was ordered by the Navy early in 1946. The successors of this prototype—the Navy HUP-1 and HUP-2 and the Army H-25—have been Piasecki's major production model so far. Several hundred have been built since 1948. They are on the way out now, and the company expects to produce the last one sometime next year.

At about the same time, output of H-21s, which started a little over a year ago, is expected to hit its stride. The company hopes it will stay up there for quite a while, until the H-16 is ready to take its place.

• **Engineering Snags**—It has not all been easy sailing. For one thing, there were special engineering problems because of the twin-rotor configuration. The toughest of them, Piasecki thinks, was to design a control system that would keep both rotors exactly in tune with each other. Another was the long transmission shaft that connected the two rotors.

• **Production Problems**—Another hurdle was the fact that Piasecki's production setup didn't keep pace with its

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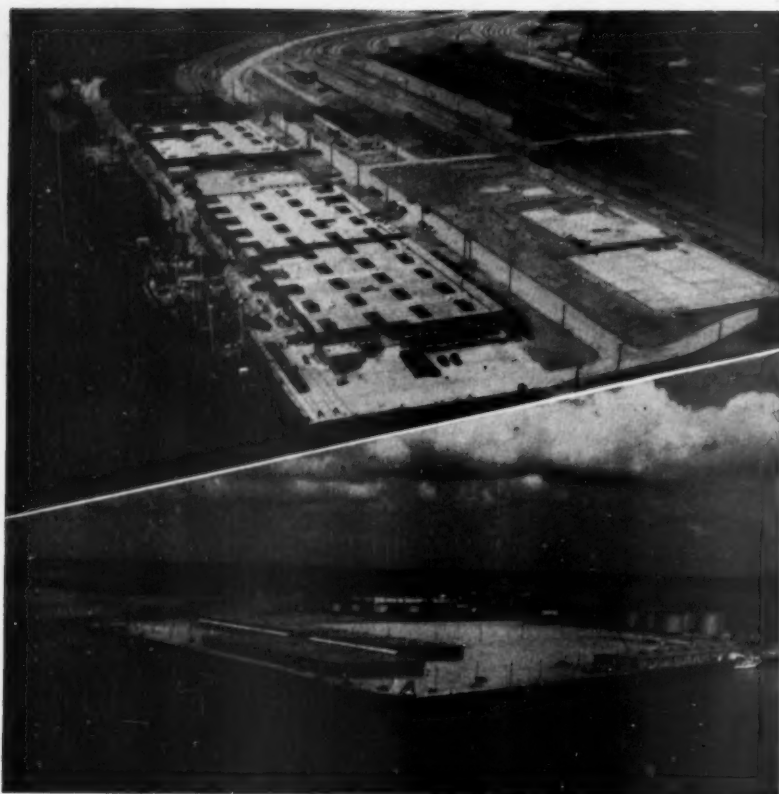


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strides in design. It had troubles with costs, schedules, and productivity. To get at this Achilles heel, in 1950 Piasecki—who admits he's no production man—moved up to the job of chairman of the board, and C. Hart Miller, who had been vice-president and general manager, took over as president.

But production difficulties continued. Toward the end of last year the directors began looking around for a man with a proved production record in aviation for president. They hit on Don R. Berlin, then executive vice-president of McDonnell Aircraft Corp.

Since the beginning of 1953, Berlin has been bringing results, cutting costs, by such moves as cutting down indirect labor and overtime, producing more components instead of subcontracting them, and tighter scheduling. "Show 'em targets," says Berlin of his workers. "Show 'em what has to get done. They'll get it done."

## III. Vast Horizons

What of the market in the future? Frank Piasecki divides it into two separate parts, military and commercial. And he can see nothing but fair weather ahead in either direction.

The military concept of airborne armies is just beginning to be implemented, he says. And the military is rapidly becoming convinced that the transport helicopter is the best vehicle to do the job of transporting those armies. So he feels certain that military demand for transport-type helicopters will grow steadily for many years.

As for the commercial market, Piasecki thinks it will have to content itself with converted military helicopters for a long while. The military will have priority on design talent, for one thing. And big though the commercial market will be, it probably won't be able to support entirely new models of its own.

• **Future Models**—And what of the helicopters of the future? Piasecki has a lot of ideas about that, too, although he admits it may take a long time to realize them. Improvements, he feels, will come in four directions:

- Increased capacity, through larger machines, more power, multiple power plants.

- Increased speed—up to 180 mph. for helicopters of today's general type. In addition to more power and more power plants, this may come about through stub wings (which would take some of the lifting load off the blades and thus increase their propulsion power), through new types of blades, or some form of auxiliary propulsion.

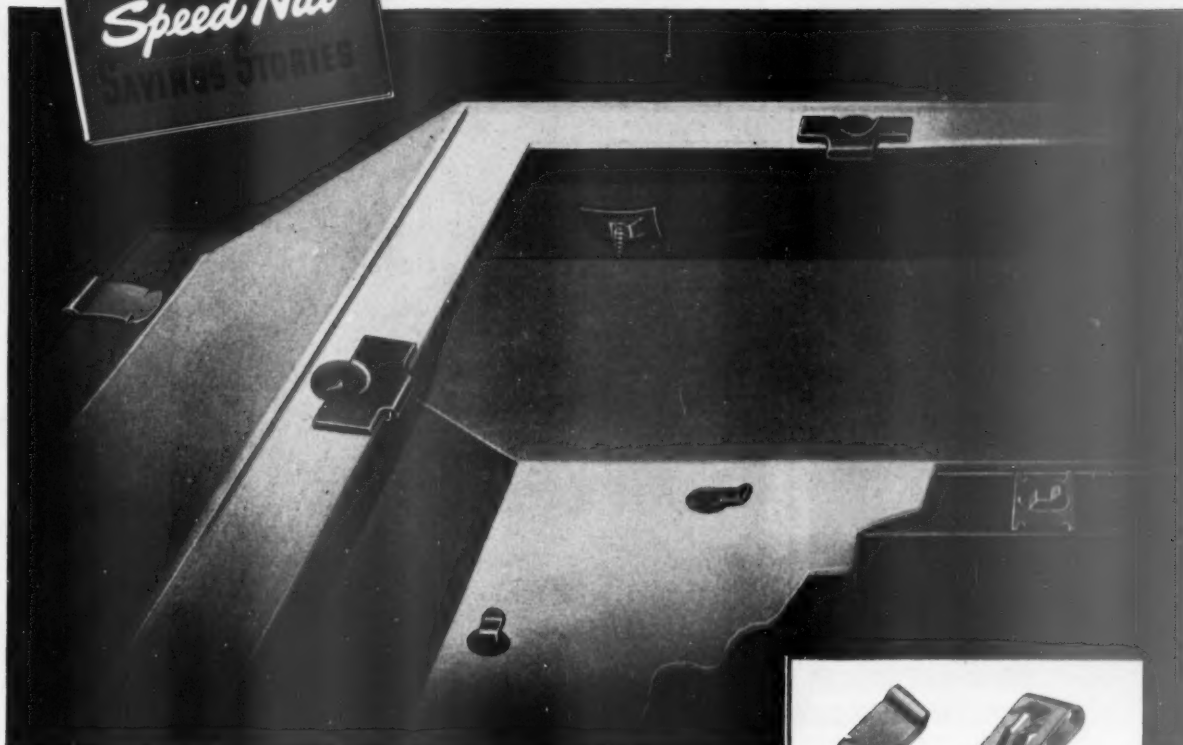
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**SMALL COMPANY** run by George Golman (left) and Theodore Strauss specializes in making extra-fancy gift wrappings. Its . . .



**BIG CUSTOMER** is Brown-Forman Distillers Corp., which has ordered 3-million wraps like these for the coming Christmas.



**BIG OUTPUT** offers 250 varieties a year. Born only two years ago in a \$25-a-month office, Strauss-Golman Co. is making a . . .

## Small Fortune in Gift Wraps

Brown-Forman Distillers Corp. was doing some heavy thinking. Competition in the whiskey business is getting tougher, executives reasoned. Judging by the signs (BW-Sep. 12 '53, p. 34), it'll be really rugged by Christmas. We've got to do something to keep our brands (Old Forester, Early Times) in the running.

After mulling the problem over for a while, Brown-Forman decided to concentrate on gift wrappings. If we can offer our brands in attractive, unusual wrappings, the executives figured, retailers will have a good selling point come the Christmas shopping season.

Brown-Forman accordingly wrote to Neiman-Marcus, big Dallas department store (BW-Sep. 19 '53, p. 134) noted for its imaginative gift wrappings. We want

wrappings as good as yours, said Brown-Forman. What's our next step?

Neiman-Marcus' advice: Take your problem to Strauss-Golman.

• **Two Men**—Strauss-Golman Co. is a two-year-old company run by two 29-year-old partners—Theodore H. Strauss, onetime radio executive; and George H. Golman, onetime liquor wholesaler and appliance distributor. It specializes in making gift wraps that go mere printed paper one better—wraps decorated with beads, feathers, tinsel, paper angels, cardboard sleighs. Cost of these wraps varies from 8¢ to 22¢ apiece.

Strauss-Golman's short history has been very closely tied up with Neiman-Marcus. When Strauss and Golman decided to go into the gift-wrap business, they—like Brown-Forman—went to

## 6 INSIDE REASONS



**1** Helical, wear-hardened gears cut from alloy steel forgings and shaved before hardening for correct eccentricity and helical angle and bright, smooth surfaces — factors contributing to quiet operation and longer life.

**2** Gear arrangement in simple train minimizes number of moving parts — promotes quietness.

**3** Pinion and gear supported and spaced to reduce deflection — permits high load-carrying capacity.

**4** Splash system with large oil reservoir assures constant and thorough lubrication of all parts.

**5** Anti-friction bearing construction throughout.

**6** Reliance Precision-Built Motors provide the maximum in dependable and economical power.



—108

Write for

**GearMotor Bulletin E-2404**

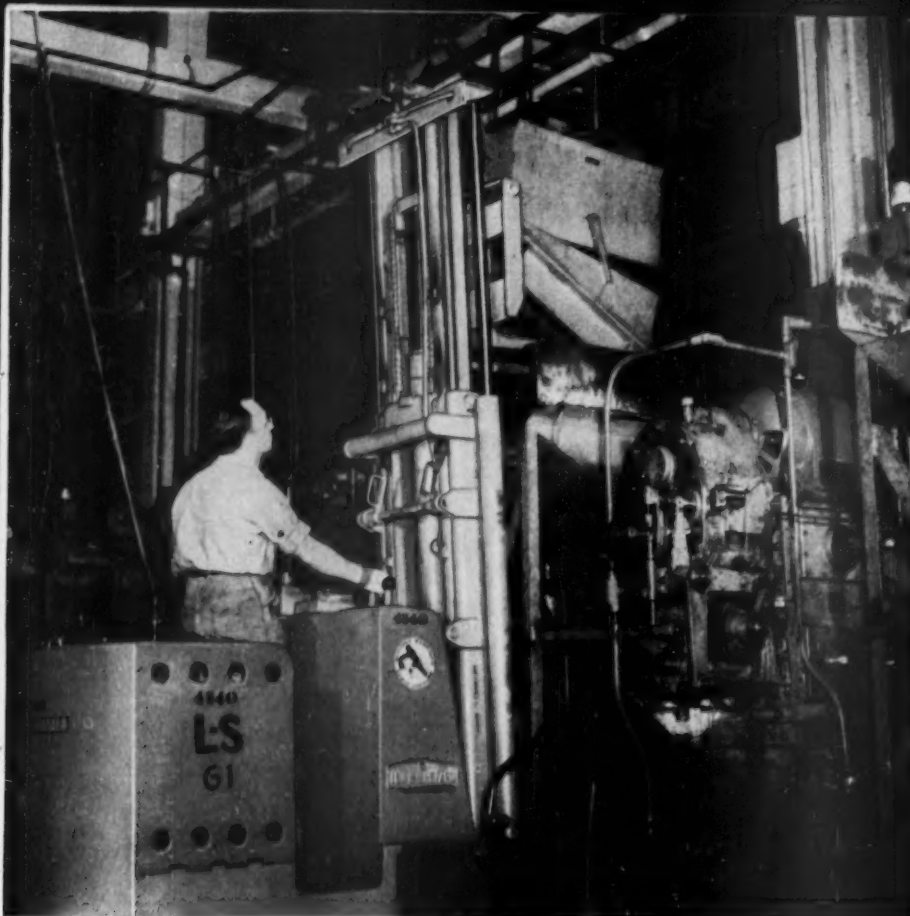
Sales Representatives in Principal Cities

**RELIANCE**  
ELECTRIC AND  
ENGINEERING CO.

1069 Ivanhoe Road • Cleveland 10, Ohio

"All Motors are NOT Alike"





## New handling system speeds production of Grinnell Fittings

Until Grinnell Company switched from hand trucks to dependable Lewis-Shepard SpaceMaster Electric Trucks, it had a real problem handling small castings coming out of the foundry.

### Before SpaceMasters . . .

Space-eating, non-stacking shop barrels caught castings at end of foundry conveyor. Man lugged barrel on a hand truck to grinding machine. Machine operator worked with one arm and his head in the barrel, the other arm in the machine.

### After SpaceMasters . . .

Steel drop-bottom boxes catch castings from foundry conveyor. Efficient, economical L-S Model "E" carries box to grinding machine, dumps castings into overhead gravity-feed hopper. Boxes are designed to cash in on Model "E's" stacking ability.

**Results . . .** Manhandling eliminated. Storage efficiency greatly improved. Dependable L-S Model "E" Electric insures on-schedule production at lower cost!

## LEWIS-SHEPARD

Lewis-Shepard Products, Inc.  
11-9 Walnut St., Watertown 72, Mass.

Blue-Chip companies in these industries  
recently reordered L-S Fork Trucks:

Paper Mfr. ....	26 L-S in use — reordered	3
Elec. Cds. Mfg. ....	41 L-S in use — reordered	13
Grocery Chain ....	6 L-S in use — reordered	1
Paint Mfr. ....	1 L-S in use — reordered	6
Motor Transport ....	1 L-S in use — reordered	12
Auto Mfg. ....	4 L-S in use — reordered	1
Bottler ....	2 L-S in use — reordered	5



The MASTER Line



**Get the facts!** Learn all about this and many other cost-saving Lewis-Shepard SpaceMaster installations. Call your local L-S representative, listed under "Trucks, Industrial" in your Yellow Phone Book, or write today!

Clip to your business letterhead

### Please send me

- ☐ Proof Folders  
☐ Electric Truck Comparison Charts

**"... had many of the elements of a cloak-and-dagger story . . ."**

**GIFT WRAPS** starts on p. 154

the big department store for advice. Neiman-Marcus arranged a deal with the two men: The department store's staff would design wraps; Strauss-Golman would sell the wraps to retailers under the department store's name. The store would get a fixed percentage of gross sales as royalty.

It worked well. Strauss-Golman started out by renting an office desk for \$25 monthly, farming out the gift-wrap production work. They wrote to retailers around the country, describing their line of wraps and suggesting it as a high-power sales booster—not only for Christmas business, but also for such occasions as birthdays, weddings, Mother's and Father's days. They followed up their letters by phone calls and personal visits.

Orders piled in. Pretty soon, Strauss and Golman had to get bigger quarters; a little later, still bigger quarters. They moved around so much that Golman once returned from a trip and found his old office empty. Strauss had moved on in his absence.

• **Full-fledged**—By the end of 1952, Strauss-Golman Co. was well up in the world. It was operating in a 6,000-sq. ft. plant. It was now doing its own production work, with about 60 employees. It had also acquired the services of Felix B. Goldman, college friend of Strauss. Goldman had been with a paper company, and he had the technical and sales knowledge that Strauss and Golman needed. He is now the third, but limited, partner.

Strauss-Golman's sales in 1952 totaled \$300,000, with 40 U.S. stores picking their orders from seven basic designs.

• **Big Year**—This year has seen two big windfalls go to the young company. In March, Neiman-Marcus decided to quit making its own gift wraps and turn the operation over to Strauss-Golman, which could make the wraps more cheaply. S-G now makes all the big store's wraps: 400,000 a year. The rest of S-G's production, sold elsewhere, goes under the trademark "Susan Crane."

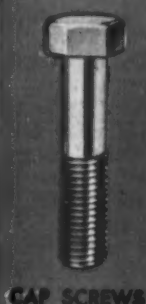
And then there was Brown-Forman. The big distiller at first ordered 2,250,000 wraps, later decided it would need 3-million.

Strauss-Golman had never seen an order that big before. Coupled with the Neiman-Marcus order, it meant only one thing: more expansion. The little company borrowed \$100,000 from a bank, leased a 2,500-sq. ft. workshop

# aluminum

## FASTENINGS...

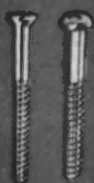
**IMMEDIATE  
DELIVERY!**



CAP SCREWS

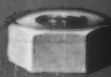


CARRIAGE BOLTS



MACHINE SCREWS  
(SLOTTED AND PHILLIPS HEAD)

WOOD SCREWS  
(SLOTTED AND PHILLIPS HEAD)



NUTS



WING NUTS



CAP NUTS

MACHINE BOLTS



TAPPING SCREWS



RIVETS



WASHERS

LOCK WASHERS

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FASTENINGS



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☐ Catalog 25 on Harper Everlasting Fastenings

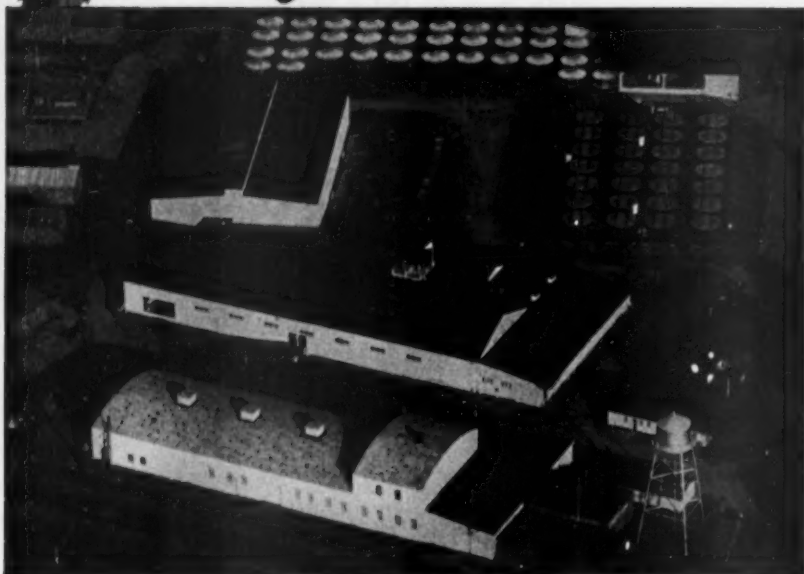
Name.....

Company..... Position.....

Address.....

City..... State.....

# How National Wood Tanks serve Willamette Cherry Growers



Willamette Cherry Grower's, Salem, Oregon. Notice the 77 National Wood tanks (upper right of photograph) for processing cherries.

## EFFICIENT FOOD PROCESSING MADE POSSIBLE BY NATIONAL TANKS

Each year the Willamette Cherry Growers prepare between 3,000-5,000 tons of cherries for future processing. Speed is necessary in economically processing a large quantity of highly perishables such as cherries. The Willamette Cherry Growers have found that by replacing barrels with the large National Wood tanks, they could benefit from many economies in operation. This more efficient handling and storing of cherries has allowed them to save considerable time and money.

The National Wood tanks and pipe lines used by many other food processors\* have also been custom-designed to reduce costs by solving their liquid storage or transportation problems.

### Food Processors Write Today

Maybe National Wood tanks and pipe can help you lower processing costs. If you store or transport liquids, write today giving details of your operation. Our engineering staff will carefully analyze the details. If National Wood tanks and pipe can help you, we will work with your staff to design wood tanks and pipes to fit your special project.

You'll be pleased with the savings in time and money that you can make with durable National wood tanks and pipes.

\* Names given on request.

Write to:  
National Tank & Pipe Co.  
2301 North Columbia Blvd., Dept. B  
Portland 17, Oregon.

# National

## WOOD TANKS and PIPE

DIVISION OF M and M WOOD WORKING COMPANY

and two warehouses, hired more employees.

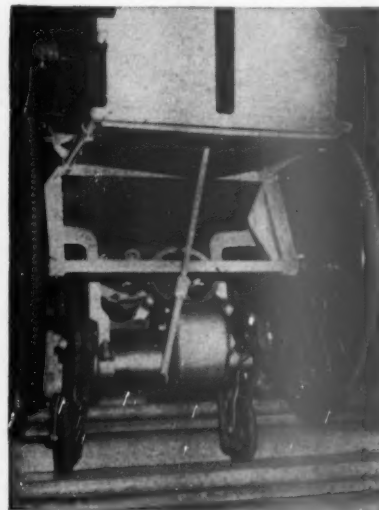
The Brown-Forman job had many of the elements of a cloak-and-dagger story. Because of hot competition in the whiskey industry, the distiller demanded the strictest secrecy. Correspondence was marked Top Secret. The two whiskey brands were not mentioned by name. Old Forester wraps were dubbed Fort Worth Project; Earley Times wraps, Dallas Project. Strauss-Golman's employees didn't know why, or for whom, they were making the wraps. When Strauss and Golman went to a Sept. 12 sales meeting in New Orleans, they were forbidden to ride on the same train with retailers attending the meeting.

The retailers were the first large group to be let in on Brown-Forman's secret. Trade magazines will begin carrying ads on the subject in October.

• **Status**—Strauss-Golman expects its 1953 sales to run \$750,000; its 1954 sales, \$1-million. It now offers 250 varieties of wrapping a year, handles 200 customers in 75 cities.

It now has some designers of its own—working with Neiman-Marcus designers. It employs 200 women workers, doing much of the production by hand. Its weekly payroll is \$6,000, against \$1,500 a year ago.

Right now, it's up to its neck in work and can't handle any more orders. If negotiations on a new 17,000-sq. ft. building go through, Strauss-Golman will start taking orders again.



## Chair That Climbs

This mechanized wheel chair goes up stairs or down under its own power. It's the four small motor-driven wheels in the under-carriage that do the trick. The chair must be guided manually, but does the work itself. It was developed in Denmark.



## COMPANIES BRIEFS

White Motor Co. broke ground and broke even on its new truck plant at Exton, Pa. (BW—Sep. 5 '53, p32). As soon as a court had upheld White's purchase of Autocar Co. through exchange of stock, White started building a new \$2-million plant to replace the old Autocar plant at Ardmore, 12 mi. away. White also sold the Ardmore property to Land Holding Corp. of Philadelphia. The price: \$2-million.

Federal court in Hartford ruled that Owens-Illinois Glass Co. would not violate antitrust provisions by investing \$8-million in 49% of the common stock of Plax Corp., a plastics producer (BW—Jul. 11 '53, p86).

Trolley car heaters have gone the way of the buggy whip, so Consolidated Car Heating Co., Inc., of Albany decided to change its name to Consolidated Metal Products Corp. as more descriptive of its business.

A Delaware utility is taking a Public Service Commission ruling to court for the first time in the state's history. Diamond State Telephone Co. had asked for rate increases to bring in an extra \$1,514,000 a year; the PSC had granted only \$517,000.

Ozark Air Lines of St. Louis reports a 55% increase in riders for the first eight months of 1953 compared with 1952. The line's certificate of convenience and necessity comes up for renewal next week before CAB.

Chrysler Corp. is slated to get a \$50-million contract for tank recovery vehicles, to build at Detroit Arsenal after its M-47 tank program ends in another month. Chrysler lost to GM in bids for a \$200-million M-48 tank contract (BW—Sep. 19 '53, p34).

More than half the passengers flying across the Atlantic are riding at tourist fares. In the week ended Sept. 5, Pan American World Airways carried a record total of 4,106 passengers over the ocean; 2,280 rode tourist-class.

A big oil refinery for the Hampton Roads section of Virginia was announced by Pan American Refining Corp., an affiliate of American Oil Co. Initial sections of the plant, with capacity of 25,000 bbl. a day, are expected to cost \$25-million.

The Clinchfield RR wants to abandon passenger service in Tennessee, the Carolinas, Virginia, and Kentucky. It claims heavy losses on passenger service.

## THREE MORE GOOD REASONS FOR CHOOSING THE PLANE WITH CONTINENTAL POWER



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UTILITY, THESE THREE  
GREAT NEW CONTINENTALS**

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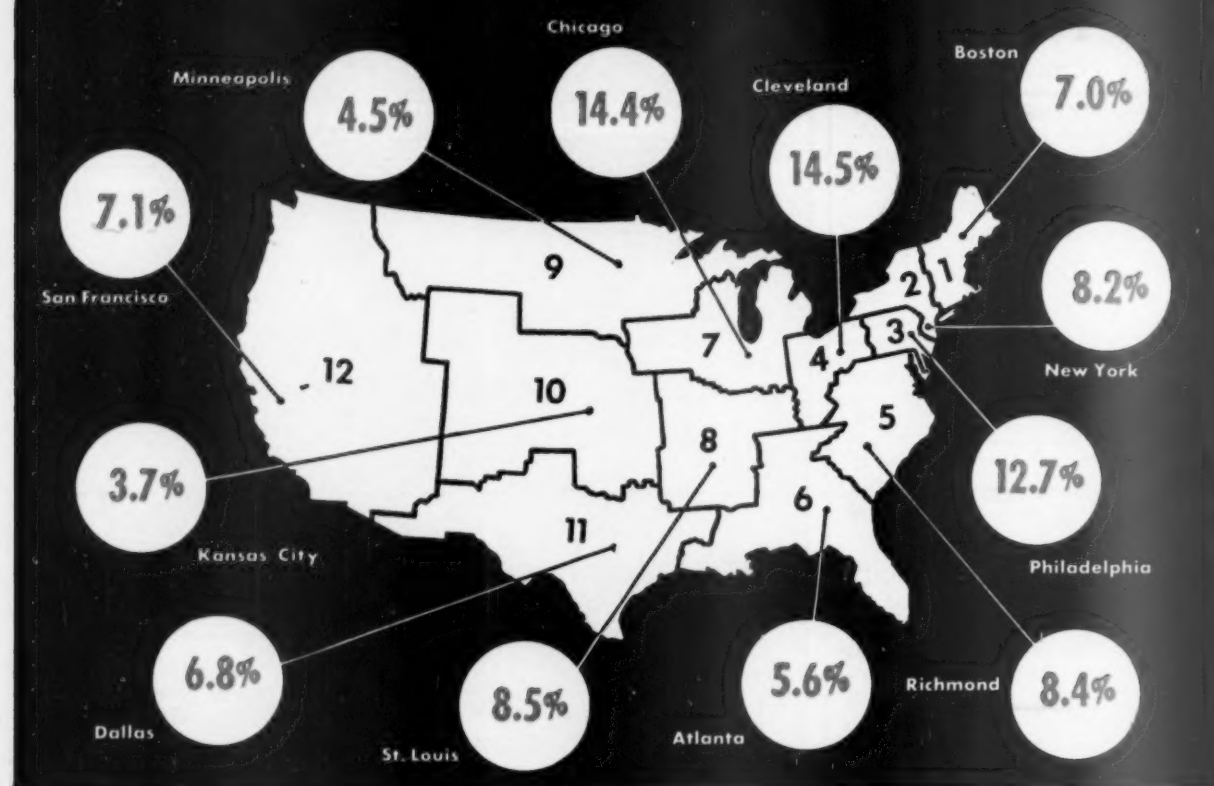
...and like every Continental, they're backed by established parts and service facilities all over the world.

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MUSKEGON, MICHIGAN

## The Income Pattern

Business Week's Regional Income Indexes — Percent Gains from Last Year:



### The Indexes:

Federal Reserve District	July 1952	June 1953	July 1953	Federal Reserve District	July 1952	June 1953	July 1953
1. Boston	238.8	252.6	255.4	7. Chicago	270.0	309.2	308.8
2. New York	252.4	263.5	273.1	8. St. Louis	278.6	296.5	302.2
3. Philadelphia	249.9	273.4	281.6	9. Minneapolis	303.1	312.8	316.8
4. Cleveland	265.6	302.9	304.0	10. Kansas City	345.5	366.1	358.3
5. Richmond	294.4	317.9	319.1	11. Dallas	387.8	419.3	414.3
6. Atlanta	351.1	373.4	370.8	12. San Francisco	320.3	346.7	343.0
1951=100; adjusted for seasonal July figures preliminary, June revised				U. S. Composite	284.6	308.8	310.7

## U.S. Incomes Jump in July

From January until June, income gains over a year ago stuck close to the 7% mark. July upset the pattern: The margin swelled to 9.2% above July, 1952, chalking up not only the biggest increase of any month this year but

also the record gain since back in 1951.

It's a good bet the jump mainly reflects last year's steel strike. For one thing, July, 1952, gains over 1951 were only about 3%. And the greatest 1953 pickup was in the Philadelphia, Cleve-

land, and Chicago regions—which showed the smallest growth a year ago.

The month-to-month growth picture held steady at the 0.6% figure set in June. New York led and Kansas City trailed.



## Plastic "skyhooks"

Amazing polyethylene is helping science explore the upper air  
while doing a down-to-earth job of improving the things you use

HUGE, pear-shaped balloons of light, strong polyethylene plastic now carry sensitive instruments 20 miles up into the stratosphere. There they are probing the secrets of weather and adding to our knowledge of cosmic rays—the mysterious particles of energy that shower down upon us.

**"SQUEEZE" BOTTLES, TOO**—These "skyhooks" are one of many interesting applications of polyethylene. Most of us have already met this versatile plastic in the form of "squeeze" bottles for cosmetics, unbreakable containers for medicine, protective wrappings for fresh and frozen foods, and insulation for radio and TV wire.

The making of polyethylene is as spectacular as its uses. A tremendous and continuing pressure equal to the explosive force within the largest anti-aircraft guns

changes ethylene gas into tough polyethylene plastic.

**MILLIONS OF POUNDS**—The people of Union Carbide, with their years of experience in chemistry, plastics, and the use of high pressures, turn out nearly 80 million pounds of polyethylene a year—an important part of the nation's total production. Yet the need is so great that three new plants will boost UCC's output to over 250 million pounds by 1955.

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# INTERNATIONAL OUTLOOK

BUSINESS WEEK  
SEPT. 26, 1953



A period of diplomatic sparring between East and West. That, rather than East-West negotiations, is the outlook for some months ahead.

There's little chance for a Korean political conference this fall and even less for a foreign ministers' meeting on Germany. That leaves little room for any change in East-West relations.

This picture could be altered, of course, by local events such as another popular explosion in East Germany, a rash move in Korea by Syngman Rhee, or by an early ratification of the European Defense Community.

The official Washington view doesn't quite jibe with this interpretation of what lies ahead—at least not in the case of Korea. The State Dept. still thinks that the Communists will come to a political conference on the present United Nations terms.

At the U. N., too, you can get a different slant. The general view among foreign delegates is this: The Communists won't attend unless India is included. But there's some hope that New Delhi can still be brought in as a neutral—say, by an invitation from the Communist side which the U. S. wouldn't oppose.

There are two catches to this idea: (1) Prime Minister Nehru has said flatly that India won't attend unless invited by both sides; (2) It would be hard for the U. S. to agree to India sitting in as a neutral.

The basic problem is whether or not Russia is ready to negotiate either on Korea or Germany.

For several months after Stalin's death it looked as if that was what the new regime was shooting for. But now the evidence suggests that the Kremlin is playing for time.

Here are some reasons that might explain a shift in Soviet tactics:

- The top members of the Malenkov regime haven't been able to agree on a German policy now that Adenauer's election victory has killed any chance of neutralizing Germany.
- The Soviet H-bomb has strengthened the hand of those in the Kremlin who believe there's no need to rush an East-West settlement.
- Russia's standing in Asia, especially in India and Indonesia, has risen since the Korean cease-fire. So Moscow may hope that it can engineer an Asian bloc under Peking's leadership before negotiating a Korean settlement.

Meanwhile, the Russians face a tough test in East Germany.

It looks as if there will be a worse economic breakdown this winter than last. Food, coal, and electricity are inadequate to meet winter needs.

To deal with this situation, the East German government is shifting again to a harsh labor policy. Work norms will be jacked up. To enforce discipline the government is now recruiting an auxiliary police force of 200,000 men.

It's doubtful if the Communists will get away with such tactics any more successfully than before. Reports from East Germany suggest that discontent is boiling up toward another explosion like that of June 17.

The U. S. has its own problems in Western Europe.

Adenauer's election victory in West Germany may have led Washington

# INTERNATIONAL OUTLOOK (Continued)

**BUSINESS WEEK**  
**SEPT. 26, 1953**

into over-optimism about the European Defense Community (BW-Sep.19 '53,p163).

As things look now, the French want another six months to make up their minds on EDC.

Premier Laniel can't get agreement even in his own cabinet. That's why he has had to postpone his proposed visit to Washington.

•  
**Britain is now ready to play ball on a permanent basis with the Schuman coal-steel pool.**

The Churchill government, the National Coal Board, and the steel industry all favor the closest possible ties with the pool, short of actual membership.

The British have been moving in this direction for some time. But it has taken the current mild recession in Europe's coal and steel industries to jell British opinion.

Now that coal and steel stocks are high on the Continent, producers there are growing restive under the pool's price rules.

So the British want to be in a position to throw their weight behind the High Authority, as it tries to keep pool producers from rocking the boat. What the British want is stability in coal and steel markets.

•  
The State and Treasury Depts. are tussling over the Export-Import Bank's new lending policy (BW-Aug.15'53,p136).

There's a test case up now before the National Advisory Council—New Zealand's application for \$20-million to finance a lumber, pulp, and paper project.

Treasury wants the Ex-Im Bank to deny the loan unless it can get private U. S. interests to back the project, limit its own participation to underwriting the private loan.

State wants the Bank to lend the money first and later to sell the notes, with a Bank guarantee, to private industries.

•  
Behind this squabble is State's effort to get the Treasury to relax its tough policy toward new Ex-Im development loans.

State is urging that the Bank be permitted to make new loans to the limit of its yearly profits and repayments, which together amount to about \$200-million a year.

That way the Bank's lending activities wouldn't produce either a deficit or a surplus in the U. S. budget.

State also wants the bank to sell more of its notes to private investors, with a Bank guarantee. That would give Ex-Im more money to play with.

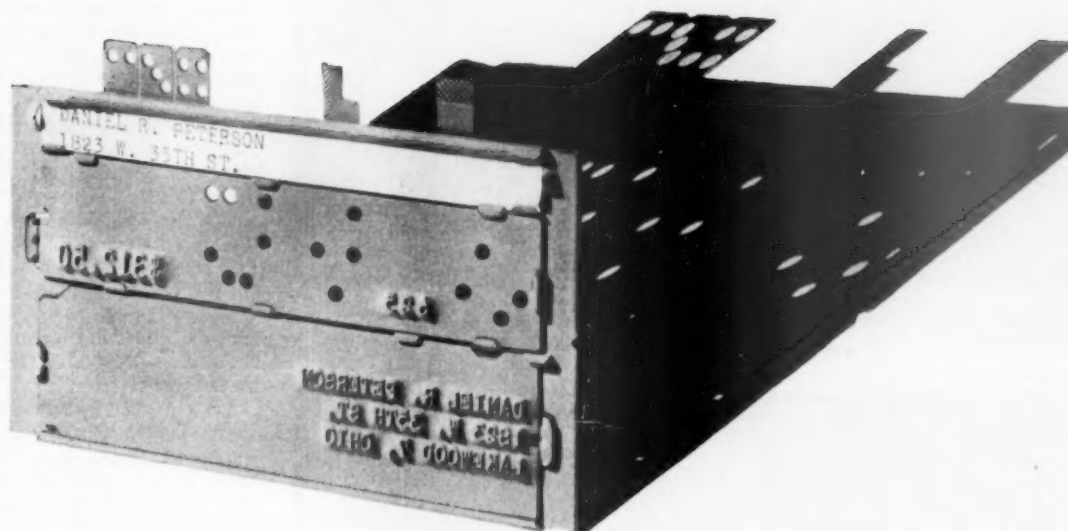
Treasury is standing pat on both issues. The decision in the New Zealand tussle, which is due this week, will show who is getting the upper hand.

•  
**The U. S. Defense Pact with Spain will be signed any day now.**

That will give the Spaniards access to about \$390-million in U. S. aid. The breakdown, roughly will be: \$160-million for construction of air and naval bases; \$140-million for military end items; \$85-million for economic aid.

Spain probably can count on eventually getting an additional \$200-million or so under the aid program.





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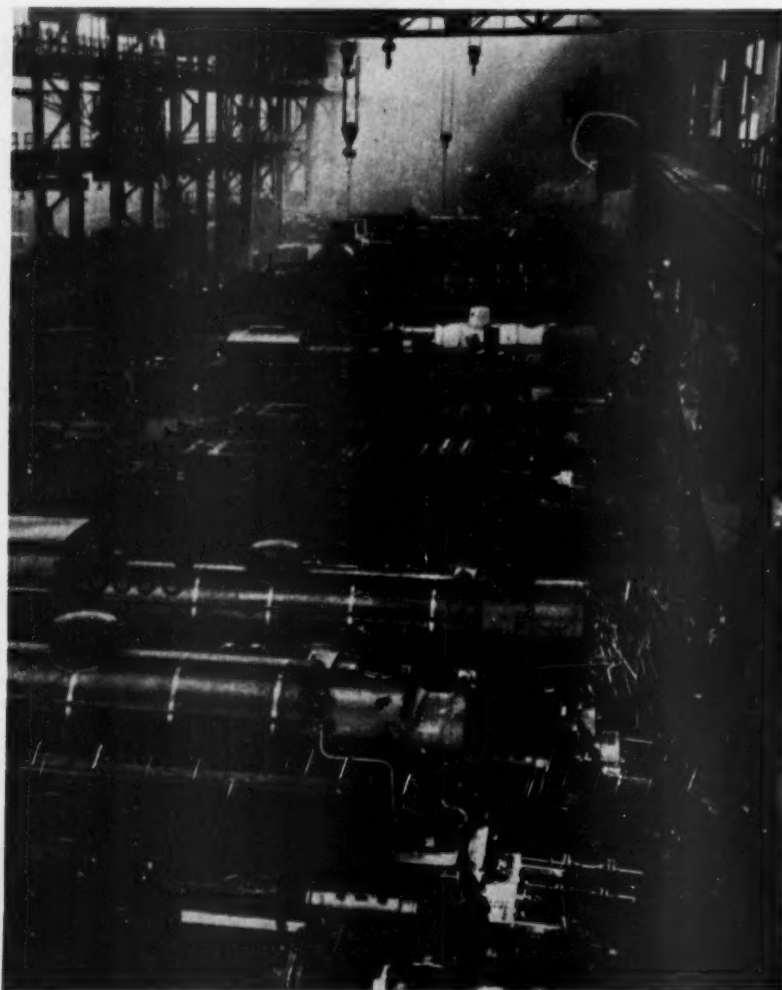
# Addressograph-Multigraph

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**KNOCKED OUT** cast-steel plant at Essen—center of the Krupp empire—was ravaged partly by bombing, partly by Allied dismantling.



**STILL ALIVE** —and once more running at full blast—are some 30 Krupp enterprises like this big locomotive plant, also at Essen.

## Krupp: Felled

Contracts for a \$150-million steel plant in India, another steel mill in Egypt, a steel survey in Pakistan, a nickel project in Greece, a cement plant in India, a resources survey in Yemen, and a bid to build a \$65-million suspension bridge over the Bosphorus—these are visible signs of the rebirth of Krupp of Essen, prewar Germany's industrial giant.

European industrialists are watching Krupp's comeback with a mixture of envy, apprehension, and outright fear. Some British business circles even wish that Krupp would return to the production of armaments—now a forbidden field for West German industry. Then, these Britons say, the Essen firm wouldn't be able to concentrate its energies so fully on meeting the demand for industrial goods in the Middle East and South Asia.

• **Line of Work**—But a close look at what's happened to Krupp in the past few years shows that the arms ban alone doesn't explain the firm's amazing comeback in civilian ventures. The simple fact is that Krupp had such vast industrial interests and such a fund of technical and business know-how that it was bound to come back as soon as the German economy revived. Even the destruction wrought by World War II and an Allied order divesting Krupp of its interests in coal mining and basic steel production have left the Krupp empire with 30 individual enterprises and assets that must amount to at least \$100-million.

The Krupp enterprises are concentrated today in two fields:

• **Transportation.** Krupp manufactures locomotives, ships, trucks, and all types of railroad equipment.

• **Steel processing and industrial equipment.** The firm builds machinery and industrial equipment of every type from nuts and bolts to complete steel mills and mining installations. Stahlbau Reinhausen, one of the Krupp enterprises, handles the bulk of this business and exports 60% of its output.

• **Foreign Projects**—At present, Krupp owns no foreign companies and has no foreign agencies of its own. But it is represented in almost every country of the world by local companies, many of which act for several German firms. In handling foreign jobs, Krupp makes the greatest possible use of native talent and labor. Only top direction is handled by a small nucleus of German engineers.

In financing foreign projects, Krupp can grant relatively favorable credit terms. In the case of the Indian steel

# Giant Walks Again

mill, Krupp is putting up 25% of the cash by working through a German banking group. (The rest is being put up by the Indian government and the World Bank.)

• **Bosses**—The Krupp empire is owned by Alfred Krupp, a member of the family that founded the business back in 1811. But active management control is in the hands of four men: Johannes Schroeder, finance and tax expert; Berthold Beitz, organization and administration; Dr. Friederich Janssen, exports; and Dr. Hans Kallen, technical advisor to management.

Individual Krupp companies are run by two or three bosses, usually at a ratio of one engineer to one business expert. Where large construction jobs are involved, there may be two engineers to one businessman holding down the top management position. On most matters the boards of individual Krupp companies have complete autonomy.

Alfred Krupp, like all Krupp executives, prefers to stay out of the limelight. Only recently has he taken to spending any time at his Essen office.

Even now he leaves most decisions to his lieutenants, especially to his official spokesman—"Generaldirektor Johannes Schroeder."

• **Growth Years**—Krupp has said that he will never reenter the armament and ammunition field. If he sticks by his word, this will be the latest ironic twist in the history of a firm that dates back to 1811, when the foundation for the first Krupp cast-steel plant was laid in Essen.

In its early days, Krupp employed

only four workers. But technical developments, especially in the field of steel processing, gradually pushed Krupp into the forefront of German heavy industry. Krupp was the first continental firm to introduce the Bessemer process of steel making and the first to go into production of railroad tracks and switches. By the end of the century Krupp railroad equipment was known throughout the world. By then the firm had 40,000 workers.

In 1902 Bertha Krupp, who gave her name to the "Big Bertha" gun of World War I, took over the management. Under her direction, the firm expanded at a phenomenal pace. By 1918, it employed 180,000 workers.

• **Hard Times**—Under Hitler, Alfred Krupp became sole owner of the Krupp empire. But it wasn't long before the firm ran into the most troubled times it had ever known. During World War II, Krupp plants took a heavy pasting from Allied bombers. At least 32% of the plants were completely destroyed and an additional 29% seriously damaged.

Following the war, the Allied occupation authorities vowed that Krupp would be smashed still further and would never rise again. Many of the remaining Krupp plants were dismantled as reparations. Over 156,000 tons of machinery were sent to the Allies.

On top of that, Alfred Krupp and eight of his directors were convicted in 1948 of spoliation, plunder, and participation in the Nazi slave labor program. Krupp himself was sentenced to 12 years in prison and total confiscation of all his property. But the con-



**BOSSES OF THE KRUPP EMPIRE** are owner Alfred Krupp (left, with Mrs. Krupp) and "general director" Johannes Schroeder, Krupp's top lieutenant and spokesman.

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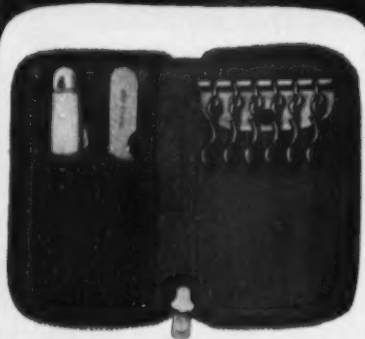
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fiscation order was never put into effect; and in February, 1951, Krupp and his directors were released from prison.

• **Deconcentration**—It was then that the Allies, under the program to de-cartelize the German economy, proceeded to divest Alfred Krupp of all his basic steel and coal mining properties. Even so, Krupp may not come off too badly from this process. His steel and coal assets have been transferred to two holding corporations, which will sell the shares to the German public over the next five years. Expected proceeds of at least \$25-mil-

lion to \$30-million will go to Krupp.

Today the remnants of the Krupp empire are humming at full capacity. Once German rearmament starts, Krupp is sure to get its share of armament orders—though according to director Johannes Schroeder, these orders will be limited to transportation and communications equipment. But even rearmament orders of this kind may divert some of Krupp's energy from export markets, thus calm the fears of European firms that are now smarting from recent Krupp successes in the Middle East and Asia.

## Oil Monopoly in Brazil

New law bars all private investors from petroleum development. But the government lacks both money and know-how, so costly imports are likely to continue.

The Brazilian Chamber of Deputies last week hung an albatross around the neck of Brazil's hard pressed economy that it is likely to jinx it for years.

The Deputies voted to create a state monopoly, Petrobras, to handle all future Brazilian oil development. Private investors, both Brazilian and foreign, will be shut out from crude production and refining. President Vargas is expected to sign the law soon. When he does, he will settle an issue that has been a political football in Brazil since the end of World War II. But it will be settled in a way that is sure to hold back economic development.

• **Senate Overruled**—Just this spring it looked as though the petroleum issue might be settled in a way much healthier for the Brazilian economy. In May the Senate voted to amend the nationalistic bill\* that the Deputies had come up with last year. The Senate provided that private companies could enter the Brazilian oil picture, though under strict government control. The Deputies would have none of this, and passed their own law as it stood. They even voted down a Senate amendment allowing Petrobras to contract private companies for help in research and production.

With the passage of the bill last week internationalist-minded Brazilians and U. S. officials in Rio were quick to predict that Petrobras wouldn't bring in oil. It's to be financed by a special tax on oil imports, which will guarantee it a big kitty of cruzeiros to work with. But oil prospecting, producing and refining equipment is expensive and must be imported. And Brazil's chronically shaky foreign exchange position will keep a low ceiling on the number of cruzeiros that Petrobras will have to spend abroad. The new corporation will be short in know-how and

lacking in competent technicians, too.

• **Steady Drain**—This could mean something close to economic tragedy for Brazil. Oil imports are the biggest single drain on Rio's slender foreign exchange resources. Yearly imports now top \$200-million and demand is rising at a steady 15% a year. Because of this, the development of a local petroleum industry could do more than anything else to create an expanding balanced economy. No one knows for sure how much oil is in Brazil, but U. S. companies bet there is plenty.

One thing is sure. Economic progress will be slow and halting as long as Brazil is dependent on heavy fuel imports. Foreign exchange reserves will be vulnerable to every shift in world trade winds. Shortages and inflationary fever will keep recurring, and Brazil's ambitious development plans will be hobbled.

• **A Damper**—This gloomy outlook in Rio is doubly disappointing to Washington because it follows nearly a year of cautious optimism. The Finance Ministry has waged an energetic campaign for solvency. It clamped controls on credit, stopped printing money, squeezed imports to a minimum, negotiated bilateral agreements with a string of European countries.

These measures have won precarious stability for the Brazilian economy. Its foreign trade deficit for the first seven months of this year was only 322-million cruzeiros compared to 10.9-billion for the same period last year.

But these are essentially negative measures designed to keep the economic boat from capsizing, not to propel it forward. And without some basic economic progress it will be tough to maintain this sort of economic discipline for long, since inflationary pressure still is straining the controls.

## BUSINESS ABROAD BRIEFS

U.S. farm exports sank 31% during the year ended June 30. At \$2.8-billion they were the lowest since 1944-45. Agriculture Secretary Benson says the situation is serious—U. S. farmers need overseas markets; the world needs U. S. food. But he hopes the 17-man presidential commission that began a study of U. S. foreign economic policy this week will find ways to reverse the trend.

**In Venezuela:** Envases Venezolanos, S. A., the country's first can manufacturer, has just begun operations. American Can Co., with a 40% interest in the firm, built the plant and will supervise it. . . . Radio Caracas-TV went on the air last week. The privately owned station is Venezuela's third video outlet. . . . Sears, Roebuck & Co., will open a retail store at Maracay next month. It's the sixth Sears outlet in Venezuela.

**General Motors'** German subsidiary, Adam Opel AG, will start turning out a new U.S.-styled, four-door sedan in October. The Kapitän 1954 will offer more power, less gas consumption than previous Opel cars.

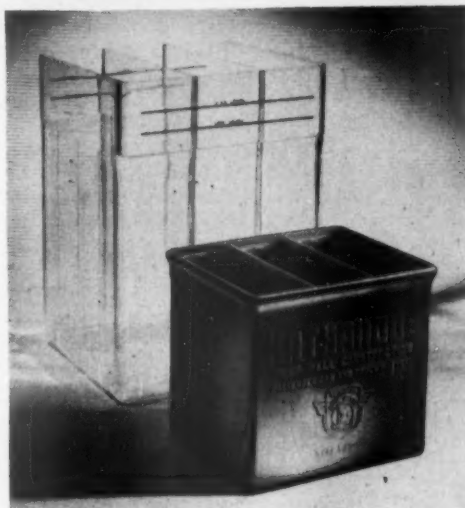
**Brazil has adopted Italy's Fiat tractor** as the standard national model. Fabrica Nacional de Motores, Rio de Janeiro, will make them under Fiat licensing and supervision.

**Two more U. S. oil firms have moved** into Peru's Amazon basin. Peruvian Pacific Petroleum Co., a Cities Service Co. subsidiary, got a 155,000 acre exploration concession; Richmond Oil Co. got one for 230,000 acres. Texas Co. and Socony-Vacuum Oil Co., Inc., previously leased concessions there (BW—May 23 '53, p146; Aug. 22, p105).

**Cartagena, Colombia,** a town of 150,000 on the country's northern coast, has put in a bid for an oil refinery. The Chamber of Commerce has just published a detailed study to show the Colombian government and private interests at home and abroad why it's the perfect place for a big refinery to supply northern Colombia and to export through the Panama Canal.

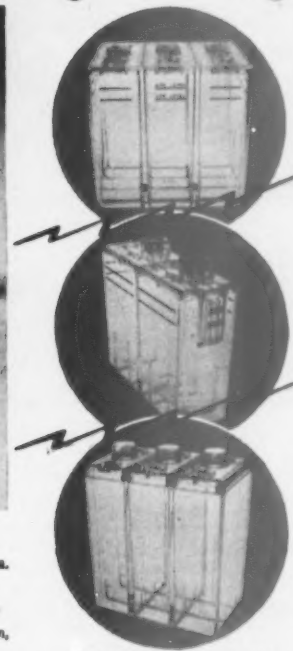
The Pictures—Assoc. Photographers—138, 139, 140; Bob Iscar—28, 29, 41, 180 (top); Herb Kratochvil—Cover, 28, 29, 144, 145, 146, 147; Sol Libsohn—186; McGraw-Hill World News—166, 167; Ed Miley—154, 155; United Press—27, 158, 178; Harry Rubinstein—180 (ctr., bot.)

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Molder: General American Transportation Co., Chicago, Ill.  
Manufacturer: Gould National Batteries, Inc., Trenton, N. J.



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## Japanese Get in Jeep Parade

Mitsubishi contracts with Willys to build jeeps in Japan, eventually with all-Japanese parts . . . Foreign chemists talk shop here . . . Getting around in Yucatan.

The Willys jeep made its first appearance in Japan eight years ago. Then the jeeps were driven by U.S. soldiers, were made in the U.S. Now Japanese civilians are bouncing along in them, and soon they will be labeled made-in-Japan.

Mitsubishi Heavy Industries Reorganized, Ltd. has signed a contract with Willys Export Co. to build jeeps for civilian use in Japan. This formalizes a temporary agreement under which Mitsubishi has assembled 674 Jeeps for Japan's National Security Forces.

For the time being the jeeps will be only partially made in Japan. Mitsubishi will assemble 1,500 this year, with Japanese-made bodies, radiators, wheels, springs, window glass, tires, batteries, and instruments. The rest of the parts will be imported from the Willys plant at Toledo, Ohio. Next year, when it's hoped production will be around 4,000 units, Japanese brakes and electrical parts will also be used. Japanese engines will be added the following year.

Within three years Mitsubishi figures it will be able to make complete jeeps, without using any Willys parts at all. And it figures production by then will be 5,000 or better a year. To make this completely made-in-Japan production possible, Mitsubishi says it will have to purchase about \$1-million worth of machine tools abroad. There's no detailed list yet, but it will include gear cutters, broaches and grinders.

Under the new contract, Mitsubishi will pay royalties to Willys of \$100 per vehicle if production totals 3,000 a year, \$125 if output is between 2,000 and 3,000, \$150 if it's less than 2,000. At present Mitsubishi can sell jeeps only in Japan, but a contract covering exports to South Asia countries is in the works.

## Chemical Visitors

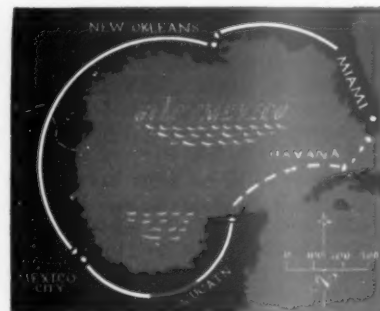
There was a lot of talk about weed killers, metal preservatives and other chemical problems in Washington, D. C., and Ambler, Pa., this week. It was heard at conferences sponsored by American Chemical Paint Co., and attended by representatives of some 40 foreign chemical firms.

The companies represented produce Chemical Paint's products under licensing arrangements. This week Chemical Paint gathered them together (they paid their way over, Chemical Paint picked up their tabs here). The visitors

toured its Ambler plant, heard talks by Chemical Paint and government experts there and in Washington, and also visited Ford Motor Co.'s Chester, Pa., plant.

Chemical Paint Co. president, Leon Cherksey, says the idea was twofold: to promote international understanding, and to build up good will among the foreign companies that provide his firm with a big share of its income.

American Chemical Paint Co., founded in 1914, was strictly domestic till the 1930s. Then it began to lease its formulas to foreign firms in a small way. Now it's almost a question of the tail wagging the dog. The company has about 50 such contracts—some with companies much bigger than itself, such as Britain's giant Imperial Chemical Industries. And these deals are one of the best income-getters Chemical Paint has.



## Circle Tour

Mexico's Yucatan peninsula has been out of the economic and cultural mainstream of Mexican life due to a lack of modern transportation facilities to link it to the rest of the country. Two years ago a railroad was built as the first step toward ending this isolation. Now step two is underway—a 200 mi., \$35-million highway, the first modern road between Mexico proper and the peninsula.

Mexico hopes the new road will push Yucatan economic development, bring tourists from the north. With Cuba's cooperation a new "circle tour" (map) will be available when the new highway is finished in about three years. Visitors will be able to drive through Mexico, over the new road to Yucatan; then board a ferry to Cuba and, after driving on to Havana, take another ferry over to Miami.





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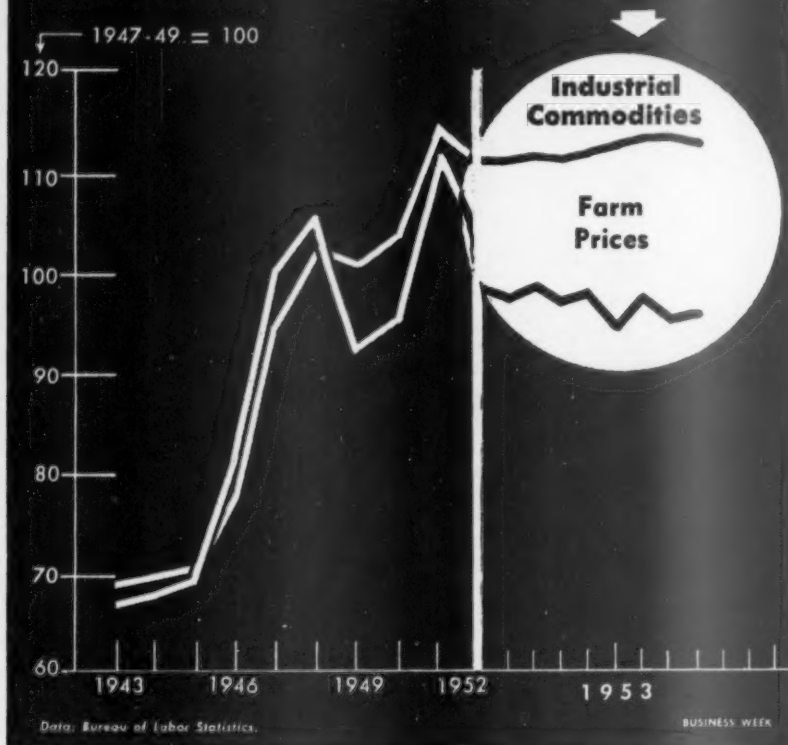
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## THE MARKETS

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## Incomes: Key to Commodities

The level of personal income, which frequently determines the course of consumer spending, once again may be the key to commodity price trends in the year ahead.

If Mr. and Mrs. Average Citizen continue to buy automobiles, new homes, TV sets, electrical appliances, home furnishings, and other products at a high rate, industrial commodity prices should continue firm.

If food sales continue high, over-supplies of all except the farm items piled up in greatest surplus should be whittled down, and food prices should stiffen before the next harvest.

If, on the other hand, individual income should slump, sensitive industrial and farm staple prices could be expected to do some quick retreating.

• **High Income**—Right now, the income news is good.

Personal income is loping along at a rate of around \$288-billion annually, compared with \$266-billion a year ago.

Disposable income—what's left after federal income taxes—is also satisfactory. It's running at a rate of \$247.7-billion annually, contrasted with \$228.7-billion in mid-1952.

Besides income, however, there is another factor to watch closely in commodities. That's inventories.

• **Stocks on Hand**—Inventories have been high most, if not all, of the time since Korea. And it's a well-known fact that a sharp liquidation of stocks of goods or materials on hand can hit commodity prices harder than a decline in business.

The news on the inventory front at the moment, however, is also good. In the auto field, some dealers are offering concessions to move floor stocks before snow flies. In department stores, clearance sales are moving out left-over summer merchandise. But by and large, inventories are about where they should be, considering present merchandise turnover rates.

• **Staples Firm**—Industrial staples since the first of the year, (see chart), have been consistently firm.

There have been those in the trade who have expected prices for steel, copper, and aluminum to buckle, but thus far these metals, which are being chewed up by industry at about the fastest peacetime rate, have generally been resisting sharp downward tendencies. As long as demand continues so strong, no substantial markdowns may be expected.

• **Agriculture**—The farm front is another story. As the chart shows, there has been a widening gap between industrial and farm staple levels. Prices of farm items, particularly since the first of the year, have been losing ground as bumper yields rolled in. Even government price supports could not stem the decline.

Best proof—on the upside—that supply and demand are still important market factors can be seen in eggs, where hot weather this past summer cut down laying. As the current month began, eggs in cold storage totaled only 826,000 cases, compared with 2.2-million cases at this time in 1952. The result: skyrocketing prices at all levels of distribution, with the best eggs selling in stores in the metropolitan New York area for 97¢ to \$1.05 a dozen.

One sign that many in the food field expect personal income—and food sales—to continue high is the growing interest of feeders in fattening beef (BW—Aug. 22 '53, p. 82). The feeling is that with incomes comfortable, the demand for meat—particularly beef—will be substantial, too.

When personal incomes taper, the tendency of consumers is to eat less meat, and more spaghetti and bread.

Steers, hogs, and broilers, however, are all currently selling below a year ago in cash markets. So are wheat, corn, oats, rye, soy beans, cotton, cottonseed oil, flour, raw sugar and butter.

Among industrials, pig iron, copper and aluminum are all commanding prices higher than a year ago. Below the levels of September, 1952, however, are lead, zinc, tin, rubber, hides and print cloths.

• **War Levels**—The extreme heights to which two wars within a decade can push commodities prices, incidentally, still is reflected in the marketplaces.

The index of wholesale prices compiled by the Bureau of Labor Statistics, and covering key commodities of both industry and the farm, now stands only a narrow 5% below the all-time high recorded in early 1951.

And the index stands around 5% above the post World War I peak.

*This announcement is neither an offer to sell nor a solicitation of an offer to buy any of these Debentures. The offer is made only by the Prospectus.*

**\$150,000,000**

## **General Motors Acceptance Corporation**

**Eight-Year 3<sup>7</sup>/<sub>8</sub>% Debentures Due 1961**

*Dated September 15, 1953*

*Due September 15, 1961*

*Interest payable March 15 and September 15*

**Price 99<sup>1</sup>/<sub>2</sub>% and Accrued Interest**

*Copies of the Prospectus may be obtained from only such of the undersigned as may legally offer these Debentures in compliance with the securities laws of the respective States.*

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*September 15, 1953.*

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## **The Pacific Telephone and Telegraph Company**

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*September 16, 1953.*



# LABOR

## AFL Bids from New Strength

- AFL convention this week pointed up federation's increased aggressiveness and resolution.
- Vitality and force of new leadership of Meany has already shown up in ILA and Joppa incidents.
- His support of AFL-CIO unity—plus convention enthusiasm—brightens prospects for eventual merger.

Daily newspapers this week carried a succession of major stories originating at the American Federation of Labor's seventy-second annual convention in St. Louis. They were important stories of the reaction of an organization of 10-million members to world affairs, politics, domestic issues, and labor's own internal problems. But the real importance of this AFL convention was not in day-by-day news.

• **Change**—To Washington, to management, and to the public, the real significance of the federation's annual gathering is this: AFL is a changing organization—stronger than ever in the past, more expansive in its views, more determined to reach the objectives it sets.

These are things to remember when thinking of the future of AFL.

The signs of change began to show a year or so ago, in a new aggressiveness and a broadening of federation activities. There is no mistaking them now. It will be surprising if they do not take on major proportions in the year ahead.

• **Meany's Strength**—The reason, of course, is largely changed leadership. George Meany stood before this AFL convention for the first time as president. He had been virtually that for a long period prior to William Green's death late in 1952, but only as a stand-in. He influenced many of the beginnings of changes in AFL, but always deferred on major matters to Green—and, because they had Green's sympathy, Meany bowed to traditionalists within the federation, the old-line craft-union executives who wanted AFL to stay a loosely knit federation of autonomous craft organizations dedicated to daily bread-and-butter matters.

Meany was strong enough as secretary-treasurer of AFL and heir-apparent to Green to overcome the traditionalists' reluctance about union political activities. He made some other changes, too, such as expanding AFL foreign work. On other things, he bided his time.

The George Meany who appeared

before the latest convention of AFL was a man of bigger stature, of more independence, and of unchallenged strength. Allied with a more progressive bloc than supported Green, but backed by the conservatives, too, he is working quietly to revitalize and expand the federation.

• **Expulsion Move**—This week's action against the racket-ridden International Longshoremen's Assn. is an example. ILA's expulsion and the creation of a new dual group on the East Coast, Gulf, and Great Lakes waterfronts would have hardly come in earlier years; it required an unyielding determination to end a long and unsavory relationship, regardless of cost.

AFL's Executive Council set the stage for the action last month when it served an ultimatum on Joseph Ryan, president of ILA (BW—Aug. 15 '53, p142). Cleanse the union of known criminals and racketeers, it ordered, or face convention steps: whether suspension of ILA or outright expulsion. ILA made a few weak motions of compliance, but it in no way cleared up what the council called "a shocking state of affairs."

Last weekend, the council headed by Meany decided that "instead of the situation improving, if anything it has grown worse." The council recommended unanimously that the convention revoke ILA's charter and immediately issue a new charter for "an organization of longshoremen, under such conditions and regulations as will assure the conduct and control of said organization within its proper jurisdiction by the decent elements on the waterfront, free from racketeering, gangsterism, crime, and corruption."

Ryan made a last-minute attempt to ward off adoption of this recommendation. He proposed that the convention place ILA under an administrator but keep it intact in view of "critical" contract bargaining now going on with Atlantic shippers. This was a compromise plan of a kind that AFL conven-

tions have dealt with in the past, aimed at tempering action. This time, a stall got nowhere.

• **Fresh Start**—The new dock union set up to replace ILA will include, at the start, substantial groups of the old ILA outside of New York which can meet AFL's racket-screening test. For a year, the new union will be a ward of AFL, administered by a five-man board headed by Meany and including Dave Beck, president of the teamsters' union; Paul Hall, secretary-treasurer of AFL's seafarers; William C. Doherty, the head of the letter carriers; and A. J. Hayes, president of the machinists.

Beck and Hall are expected to play an important part in AFL's efforts to take over all "clean" New York longshoremen who want to throw off corrupt controls and stay in AFL.

• **Meany's View**—This drastic, hard-hitting action was no one-man decision by Meany—Beck and his aides and Hall, perhaps AFL's greatest authority on waterfront problems, had a lot to do with it. It is, however, indicative of Meany's recognition that some racketeering and corruption has infiltrated AFL during years of a hands-off policy regarding international unions. It is indicative, too, of his determination to do something about it, even if it means steps that in other years would have been considered interference with affiliated autonomous unions.

• **Joppa Incident**—Unions in the Building Trades & Construction Dept. of AFL faced just such steps this week. There have been difficulties for months with craft locals in Joppa, Ill., where construction on a \$195-million AEC power plant has run into delay after delay due ostensibly to jurisdictional troubles and disputes with management.

AFL investigated a few weeks ago. Afterward, committeemen charged that most of the troubles actually involved racketeering and corrupt practice. Investigators alleged criminal elements had got control of union affairs, thereby giving some union officers a cut in lucrative returns from gambling, liquor, and prostitution concessions.

Officers of 19 building-trades unions agreed to clean up the situation, starting with orders to their locals at Joppa to stay on the job and to ignore picket lines set up by any other unionists. The latter order, aimed directly at breaking a strike of the ironworkers local, failed to end a work shutdown.

The ironworkers' international union,



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which had several times warned the Joppa local to discontinue its costly shutdowns, reacted quickly: It announced that it would charter a new local in Joppa—a step similar to AFL's action against ILA—and break the "lawless" activity of the old suspect local group. Meanwhile, the Building & Construction Trades Dept. sent a committee headed by Joseph D. Keenan, secretary-treasurer, to Joppa from St. Louis to make clear to locals of all craft unions that AFL will override local autonomy when and where necessary to assure the future observance of a no-strike pledge on the labor-troubled project (BW—Aug. 8 '53, p30).

• **Unity**—Besides these examples of the new spirit in AFL, something else is significant: In the past, talk of labor unity in AFL seemed mere lip service. Meany, though, is for it 100% and convention delegates are almost unanimously behind him on a no-raiding pact with CIO (approved by the convention) and eventual outright merger.

• **Politics**—In the political sphere, the convention chided the administration, centering its attention on Congress' record on housing, federal aid for education, and monetary policies and concluding that the record is the best argument for more labor political action.

In one of the most listened-to speeches of the convention, Martin Durkin, out of his Secretary of Labor post less than a fortnight, charged that President Eisenhower had personally reneged on a promise to him to send some 19 Taft-Hartley changes to Congress. While the White House promptly denied the charge, George Meany let it be known at the convention that he would take Durkin's version of the matter without question. Meanwhile, Durkin calmly returned to his job as head of the AFL plumbers.

• **Upcoming Moves**—What of bargaining and organizing goals and plans? These aren't a matter that AFL conventions deal with. But Meany and AFL can be counted on for more aggressive organizing—and Beck and the teamsters will be prodding them when or if they ever try to slow down. Beck is now an important figure in AFL, not a present rival for Meany's leadership but a potential one at any time he might want to challenge Meany.

Unlike CIO, AFL is not beset by internal schisms big enough to worry its leaders. There is, as in CIO, a progressives-vs.-conservatives split, but it isn't important now. Meany is solidly set in office and popular.

There is a possibility to be watched of AFL division which could lead to realignments and factionalism. But that's far away now. It might not come until AFL and CIO are a merged organization with vastly increased internal problems to cope with.

## What's Happening to the Cost of Living

	Total Cost of Living		Food 1947-49 = 100	Clothing 1947-49 = 100	Housing 1947-49 = 100	
	1947-49 = 100	1935-39 = 100			Total	Rent Only
August, 1947 .....	96.1	160.7	97.3	97.2	95.3	94.4
August, 1948 .....	104.8	175.2	107.2	104.4	102.4	101.1
August, 1949 .....	101.8	169.9	100.3	98.0	102.6	105.2
August, 1950 .....	103.7	173.4	103.9	97.1	106.1	109.3
August, 1951 .....	110.9	185.8	112.4	106.4	112.6	113.6
August, 1952 .....	114.3	191.1	116.6	105.1	114.6	118.2
September .....	114.1	190.8	115.4	105.8	114.8	118.3
October .....	114.2	190.9	115.0	105.6	115.2	118.8
November .....	114.3	191.1	115.0	105.2	115.7	119.5
December .....	114.1	190.7	113.8	105.1	116.4	120.7
January, 1953 .....	113.9	190.4	113.1	104.6	116.4	121.1
February, 1953 .....	113.4	189.6	111.5	104.6	116.6	121.5
March .....	113.6	189.9	111.7	104.7	116.8	121.7
April .....	113.7	190.1	111.5	104.6	117.0	122.1
May .....	114.0	190.6	112.1	104.7	117.1	123.0
June .....	114.8	191.4	113.7	104.6	117.4	123.3
July .....	114.7	191.8	113.8	104.4	117.8	123.8
August, 1953 .....	115.0	192.3	114.1	104.3	118.0	125.1

Date: U. S. Bureau of Labor Statistics.

BLS' index is now on a revised basis. It is linked to the interim-adjusted index for December, 1952, to form a continuous series (1) in terms of 1947-49=100; and (2) using a 1935-39=100 base. The former (1) is the fully-revised index BLS plans to continue beyond 1953.

U. S. BUSINESS WEEK

## What Railroad Workers Want

Major contract battles are in the cards for next month. Almost all unions will ask for big wage increases; nonoperating groups will demand heavy fringe benefits.

Railroads and unions representing 1.5-million rail employees, last week cleared away an important preliminary to 1953 contract bargaining: conversion of their "escalator" clauses to the Bureau of Labor Statistics' revised cost-of-living index.

With that out of the way, unions and carriers are now set for major contract battles starting early in October. These will center on demands for:

• Wage increases of about 40¢ an hour.

• Some rules changes, but not as many controversial ones as in recent bargaining years.

• And, particularly in the case of 15 "nonoperating" unions, fringe increases that the unions say are intended to extend to rail workers benefits now common in other industries.

The demands will lead to hard bargaining. But—because of the dispute procedure in the Railway Labor Act—no serious strike threat is expected for at least the remainder of this year.

• **New Formula**—The conversion formula that brings railroad escalator contracts into line with the Bureau of

Labor Statistics' new c-of-l index is patterned after the one adopted earlier this year by the auto industry and United Auto Workers (CIO). It uses 107.0 as the escalator base, and calls for a 1¢ adjustment in pay for every 0.6-point change in BLS' index. Formerly, the base was 178 (using BLS' now-defunct "old" figures) and pay went up or down 1¢ for every one point change in the index.

The mid-August index means a 3¢ raise for rail workers under the new formula.

• **Pay Demands**—This increase in pay, effective Oct. 1, will have little if any effect on union demands for higher basic wages. There is no doubt that these are stiff demands. They're sure to be resisted vigorously.

The Switchmen's Union (AFL), for instance, is on record with a demand for a 40¢ raise.

The Brotherhood of Locomotive Firemen & Enginemen wants 37½¢, and the Brotherhood of Railroad Trainmen—which is prepared to insist on "much-deserved wage increases"—has picked the same 37½¢ figure. The



## A Question of Weight

If and when the Brotherhood of Locomotive Engineers figures out a new pay-setting formula the effects will reach all the way to the locomotive designer's drawing board.

A new day will dawn for—particularly—the designer of diesel engines. Under the system most widely used today, a diesel engineer's pay is determined by the gross weight of the locomotive he handles. On engines weighing 170,000 lb. to 200,000 lb., he gets one rate. On engines over 200,000 lb., he gets another—higher—rate.

The railroads, consequently, have been anxious to keep as many as possible of their locomotives under the change-of-pay weight limit. Anxious to please their customers, designers have worked hard on packing engines with (1) maximum power without sacrificing (2) lightness. In many cases, locomotives scrape in just under the line. One manufacturer, for instance, lists a switching engine weighing 199,000 lb.

A change in the engineers' pay formula would presumably lift this weight limit—or at least soften it.

The change will affect short-haul more than long-haul railroads, which generally are content to sacrifice the payroll advantage for the extra performance of heavier, more powerful locomotives.

Brotherhood of Locomotive Engineers wants to shift from a cents-per-hour policy of increasing wages to a percentage raise that will figure out to "not less than 37½¢ an hour." Engineers, who average about \$600 a month, contend that their traditional differential over less-skilled crewmen has shrunk to around 11% because all have been getting the same raise.

The Order of Railway Conductors also wants its pay structure changed—to a graduated scale (similar to that of the engineers) based on the size of locomotives hauling trains on which they work. ORC threatened a strike on this issue earlier this month, but called off the planned walkout when the union was assured its demand would be handled "promptly to a conclusion" in October contract bargaining (BW—Sep. 12'53, p174).

Fifteen "nonoperating" unions—of machinists, boilermakers, and others—not actually a part of train crews—want "substantial" pay increases.

In addition to straight raises, most of the unions want present c-of-l bonus pay (about 10¢ an hour) added to



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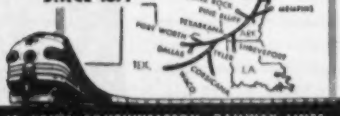
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contractual base pay—where it would be safe if living costs decline.

• **Pay Formula**—The Brotherhood of Locomotive Engineers has other ideas, too. Not long ago it called on Herman John Schrader, a University of Illinois professor of theoretical and applied mechanics, to help work out a new method for determining engineers' pay.

BLE pay is now determined—as it has been for almost five decades—by the weight resting on the driving wheels of locomotives. The union says this method no longer adequately reflects the "productivity" of engineers.

The engineers hoped Schrader could help develop a different method of "determining their increased productivity" in time for this year's bargaining. However, he recommended continuing the present weight-on-drivers formula for another contract period, to allow for further study of proposals for alternative pay-setting plans.

• **Fringe Increases**—The bulk of railroad workers—those in the 15-union "nonoperating" group—haven't any such specialized demands. Their interests are very similar to those of industrial unionists. Complaining that "rail workers have lagged well behind workers in other industries" on fringe benefits, the nonoperating unions are out "to catch up" in 1953 bargaining. They want, for instance:

- Paid vacations of up to 20 days annually for employees with 15 years or more of service. The maximum now is 10 work days or two weeks.

- Seven paid holidays a year, with double pay for work done on any holiday. The nonoperating unions say their members are "among the few workers in the country who get no paid holidays." Employees who do not work on holidays lose a day's pay; those who work get time-and-a-half pay.

- Management payment of medical, surgical, and hospital insurance costs—now met by employees covered by railroad group-insurance plans—and the extension of these benefits to the workers' families.

- Employer-financed life insurance for employees, with a minimum coverage of \$3,500.

- Time-and-a-half pay for Sunday work, with additional premium pay if the Sunday work is for longer than eight hours.

- And more free passes for nonoperating rail workers; the unions complain the carriers "have become steadily more niggardly" about passes.

These fringe demands aren't new. The unions first placed them before individual railroads last June, and sought settlements in road-by-road bargaining—with singular lack of success.

Now the demands will be served on 311 roads in conferences with western, eastern, and southeastern carriers.

## LABOR BRIEFS



Charm or bluster, John L. Lewis is an expert with both; it all depends on the occasion. Lewis took time out from a citizens' advisory committee discussion of international trade problems last week to chat amiably with P. E. H. Leroy, vice-president of Goodyear Tire & Rubber Co. Needless to say, Lewis didn't mention the question everyone is asking these days: What is Lewis going to do about coal bargaining in 1953?

Minimum pay of \$1.25 an hour should be required under the Fair Labor Standards (Wage-Hour) Act, CIO's president Walter Reuther told a convention of the United Rubber Workers (CIO) last week. The present statutory minimum for work in interstate commerce is 75¢.

Seasonal workers get life insurance and retirement coverage under a new contract negotiated by Philip Morris and the Tobacco Workers International Union (AFL). It provides that workers hired for the eight-month tobacco crop season will accrue benefit credits on the same basis as regular, full-time employees.

A raise offer by 15 commercial refrigeration sales and service shops boomeranged in San Diego, Calif., recently. Shops wanted to boost pay of 60 AFL employees from \$2.25 an hour, paid under a contract running to March, 1954, to \$2.60—in order, they said, to attract more good workers. The union said the offer was a voluntary wage reopening, asked for \$2.90 instead of \$2.60. After hard bargaining, the shops signed with the union for \$2.70 an hour.

## THE LABOR ANGLE

### Union Tug of War Inside NLRB

**E**MPLOYERS have been paying a lot of attention to the changed personnel and changing policies of the National Labor Relations Board. Management realizes it has a large stake in the board's balance and views: whether these tend to favor unions or employers or hew to the always fine, and sometimes tenuous, line of strict neutrality.

Management men don't always remember that there is another clash over NLRB "bias." It is between the AFL and CIO.

The old Wagner act was, of course, written before there was a CIO. Its explicit purpose was to bulwark and extend collective bargaining as national policy. To the board members administering the law this meant strengthening and encouraging the unions, on the theory (a) that collective bargaining is best bulwarked by a strong union that can provide stability; and (b) that the existence of a labor organization was a *sine qua non* of collective bargaining.

**T**HE STABILITY OF AFL unions in some industries collided with CIO expansionism, and board members were caught in a cross fire. The law gave them discretion to decide what was an "appropriate bargaining unit" and it was over that point that the battle largely centered.

Most of the contested "unit" issues were decided for the CIO and it was this fact that always kept AFL's attachment to the Wagner act less ardent than its rival's.

When the Taft-Hartley amendments to the Wagner act were passed, there were some changes. The board's discretion in determining the "appropriate unit" was limited in a way that pleased the AFL. A group of employees belonging to a distinguishable craft was given the right, under the statute, to carve a bargaining unit of its own from what formerly may have been an all-inclusive single industrial unit. The bricklayers in a steel mill, for example.

**B**UT THE BOARD retained discretion over the question of when such a separate unit had to be

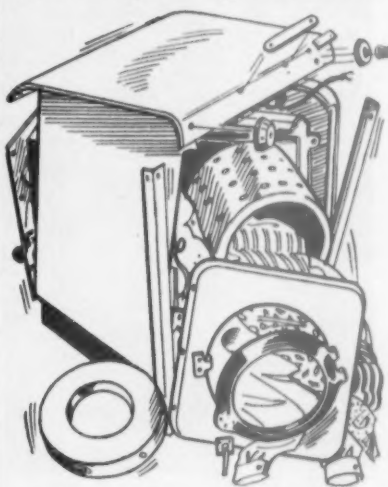
recognized and dealt with by the employer. Thus, in a case involving the American Seating Co. in Grand Rapids, CIO's United Auto Workers—established bargaining agent for the whole plant—was challenged by AFL's Pattern Makers' Assn., over representation of six patternmakers whom the company employed. Under Taft-Hartley, the board had no choice but to conduct an election among the six craftsmen. The AFL union won. And then NLRB did have a choice to make: Should the employer be forced to deal with the AFL now, or should a three-year contract with the CIO, which still has a few months to run, be taken as establishing a bargaining pattern until it expires.

NLRB has now decided that the employer must bargain immediately with the AFL for the patternmakers, the existing contract notwithstanding. This was the first decision on this point in the board's 18-year history. It pleases the AFL enormously, leaves the CIO—and in this case, the employer, too—disgruntled.

NLRB based its ruling in this case on "an unreasonably long contract." To the board, a two-year contract is "reasonable" and would have held the AFL out, but a three-year contract is not. On this ground, the board seems to close its eyes to the postwar trend, initiated by General Motors, toward five-year contracts. And it is over the question of what is "reasonable" that the AFL and CIO are now fighting for the board's mind.

**T**HE CRITICISM of the American Seating decision has been strong enough to get NLRB to "reconsider" its position—if not on this case, then on the general policy that underlies it. A number of other cases are pending in which the same issue is present. These involve a paper manufacturer, a large fertilizer manufacturer, and other companies in a scattering of industries. The issue is of enough consequence to the AFL on one side, the CIO on the other, and employers divided between the two, to assure that it will be hard-fought and bitter.

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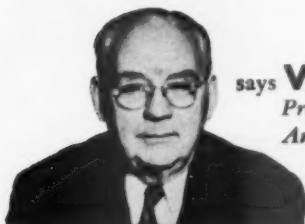
The International Ladies' Garment Workers Union (AFL) used the oldest gimmick in the publicity game—cheese-cake—to dramatize its current dispute with Artistic Foundations, Inc., makers of ladies' undergarments and swimsuits.

Importing a bevy of girls from two struck mills of the company in Pennsylvania, the union dressed them in swimsuits and set them to picketing

the firm's showrooms on New York's Fifth Avenue. The union was counting strongly on a quick arrest by New York police to forestall goose-bumps on the pickets from the chilly weather. But the police, tipped off to the wrong address, arrived late with the paddy wagon.

Nearly blue with cold, the scantily clad pickets got mercy and a suspended sentence from the city magistrate.

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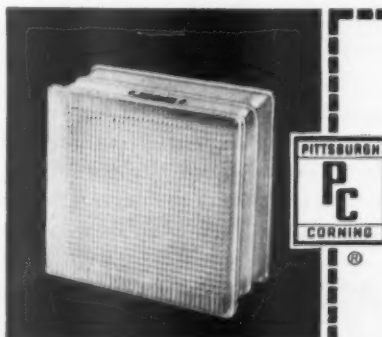
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# PERSONAL BUSINESS

BUSINESS WEEK  
SEPT. 26, 1953



You'll soon be asked for your annual contribution to your Community Chest. October is the month for the drives all over the U.S.

That means it's time now to start figuring out an answer to a puzzling question: How much shall I give? Most executives want to contribute what they think is "expected." The trouble is they can't find an acceptable norm.

Aside from other considerations, here's a general rule of thumb:

Give between 1% and 2% of your gross income. That will put you down in the chest's book as fairly generous.

Most Community Chests feel that the ideal gift would be to have everyone in town give 1%. However, everybody doesn't: Most people settle for a \$5 or \$10 check even if they can afford a lot more.

For anyone with a high income, a skimpy gift is doubly foolish. Because of the tax situation, he misses an opportunity to be of real service to the community at small cost to himself. Here's how:

There are also good social-service reasons for supporting the Community Chest. Each chest is a wholly local enterprise; everything it does benefits your own community.

Generally, the drive includes all the separate local agencies—Boy and Girl Scouts, hospitals, clinics, nursing organizations, children's agencies.

In many communities, the chest drives also include some big national campaigns—cancer, heart, and tuberculosis funds, and the like. That means you can give to most charities in one sum.

Note that all this marks a vast change in the meaning of the word "charity." Only 20 years ago, charities did little more than pick up people who had fallen by the wayside—the poor or ill, the problem cases and the bums. The hallmarks were soup kitchens and flophouses.

Charity is a lot more positive now. Says one Community Chest official: "The whole idea is a really constructive program for the community development of good health and good living—a better life for everyone."

You don't have to worry about too much of the money you give going for expenses. Operating costs for an entire year run at just about 10¢ of every dollar given.

(That isn't true, of course, with many other charities. Note that New York State is currently investigating a veteran's organization that spent 90% of the money it took in for expenses.)

The local chest decides how the money is to be split up among the participating agencies. National headquarters has no say in this. (In fact, the headquarters was set up by the local chests purely as a service agency.)

Best way to give is by a pledge. The chest doesn't need the money all at once. And that way you can handle a more generous contribution. The chests prefer it, too—probably because they have a remarkable collection record. Some report as little as 1½% shrinkage.

Remember this when you're deciding on a sum to give to the Community Chest: This gift won't take care of your church contributions. That's a separate item, and should be handled as such.

Ideally, the churches hope you will give 10% (a tithe) of your income

# PERSONAL BUSINESS (Continued)

**BUSINESS WEEK**  
**SEPT. 26, 1953**

to your church. Tithing will be the main theme in the church fund-raising drives in November.

However, you'll be hearing more and more of another trend—a sort of "split tithing." This is where the church urges people to give 5% of their income to the church, the other 5% to secular charities.

Reserved seats for all World Series games have long since been sold out. But you can buy tickets any time from now right through the Series—providing you're willing to pay heavy money.

If you're operating strictly on your own, you'll have to buy your tickets from a scalper. That means you'll be lucky if you pay as little as 50% above the market price of \$10 for box seats, \$7 for grandstand. More likely, you'll pay from three to as much as 10 times the price.

How do you find a scalper? If you're a New Yorker, ask your regular ticket broker to give you a hint (you may find out he's one himself). Or ask your sales manager, advertising agency, and other expense-account people. They entertain clients, and will know.

Out-of-towners should work through the hotel bell captain. It's his business to know such things. (Don't skimp on tipping him—remember a lot of other people will be after him for help.)

Knowing the right people may get you tickets free. In this case, the right people are companies who belong to the Yankee or Dodger "club plans." They buy tickets all through the regular season, thus automatically get to buy them for the Series games.

Make hotel reservations immediately. October is always a tight month in New York—and the Series makes it tighter.

Note for your calendar: If you live in New York State, take a look at your automobile driver's license. It may have to be renewed on Sept. 30.

The will of Sen. Robert A. Taft—which left his estate to his wife in two separate trust funds—illustrates the wise use of the "marital deduction." This benefit became part of the tax law in 1948, is allowed on property left to the spouse. But many people have not changed their wills to make use of it.

Basically, this works the same way as a joint return on income tax—you split your estate in half. That can sometimes wipe out the estate tax.

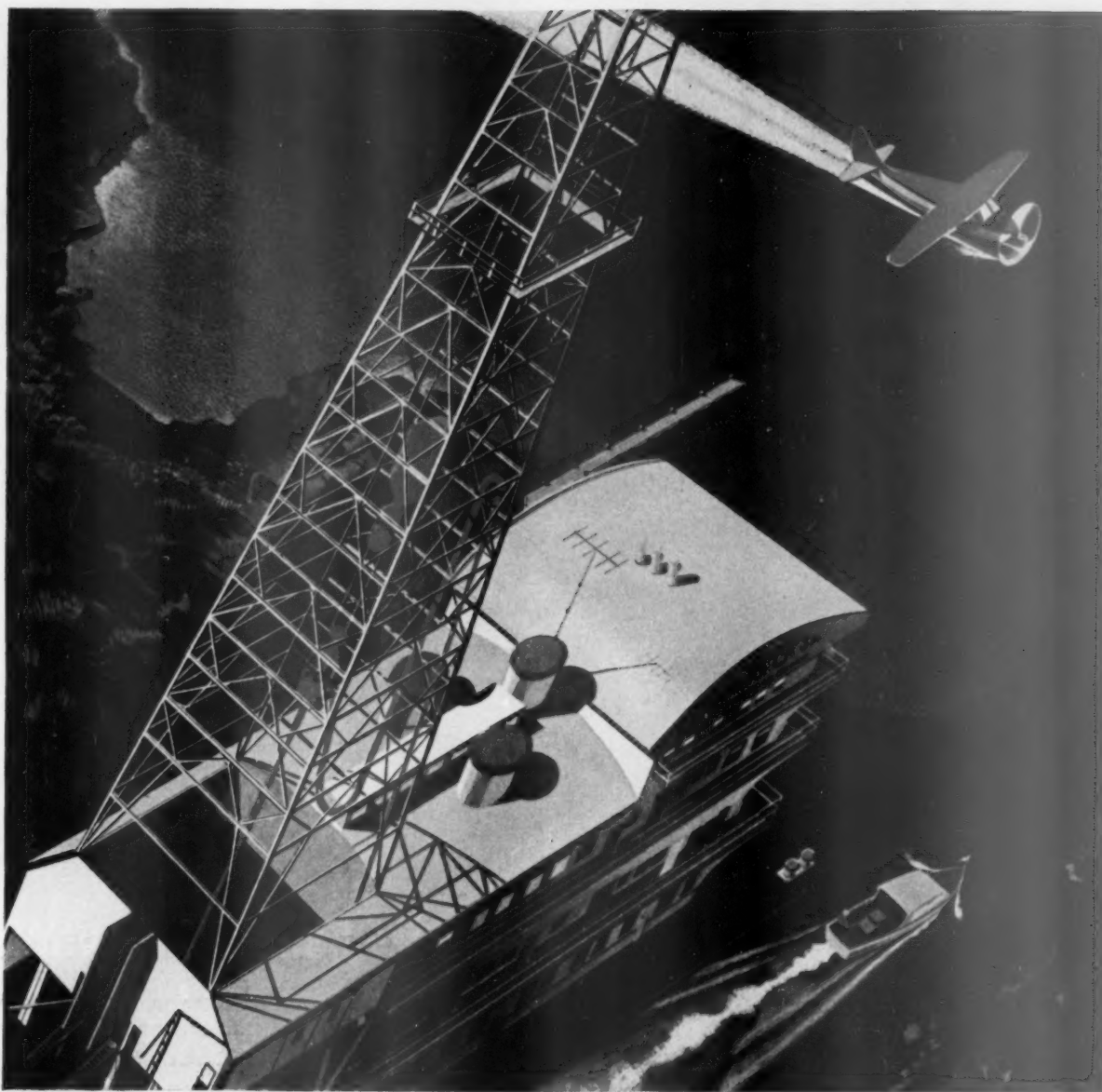
For example: A man worth \$100,000 when he dies leaves \$50,000 or more to his wife. His marital deduction is \$50,000—which brings his estate down to less than the \$60,000 exemption, which everybody gets.

Likewise, it can cut taxes on a larger estate by much more than half. Thus the tax on a \$300,000 estate without the marital deduction would be \$59,100. With the largest possible deduction it is \$17,500.

Hunters, football fans, and skiers can have warm feet—by wearing electric socks.

The principle is like that used in electric blankets. Wires are woven into the feet of the socks, are heated by a battery worn at the belt. They are made by Benjamin Mfg. Co. of Des Plaines, Ill., sell for \$19.95 a pair.

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## U. S. Rubber keeps the "shakes" away from this barge

In planning this off-shore oil-drilling barge—largest and most modern in existence—the designers *had to* make sure that her many drilling and pumping engines would not subject her to destructive vibration. They consulted United States Rubber Company engineers. The answer was quick and effective. Rubber mountings were installed to cushion the engines. Rubber couplings were installed to protect drive shafts from vibration. Expansion Joints were put on the pumps in the circulating line to take up vibration and misalignment. Ever since her first day on the job, the barge has had no case of the "shakes". Men wonder how they ever

lived through it before. Now the owners are pleased, and off-duty crew members can relax in restful comfort.

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## RESEARCH

# The Mad Race for Antibiotics



Chas. Pfizer & Co., Inc., set up a plant in Brooklyn, N. Y., during the early days of World War II, for volume production of penicillin. Today the plant and its production methods are obsolete. Pfizer has abandoned it and built a new plant at Groton, Conn.

That's the kind of thing you learn to expect when you're dealing with antibiotics. Changes come thick and fast. Demand for each new wonder drug as it hits the market is tremendous. Fierce competition springs up overnight. Research moves ahead at breakneck speed. The drug is improved and modified; production time is cut; costs are slashed; the price of the drug drops like a plummet. Then, before the smoke has cleared, somebody comes out with another antibiotic—and the cycle starts all over again.

It's the same story in almost any industry—but with antibiotics, the cycle is accelerated by the huge and immediate demand for each new product. Take the case of aureomycin, Chloromycetin, and terramycin. The three drugs came on the market in three consecutive years—1948, 1949, and 1950, respectively. Each one reached big-scale production and widespread clinical use within a year of its debut.

• **Shoulder Man**—It's an industry of many problems, high pressures. Shouldering a big part of the burden—if not most of it—are research scientists.


Not only are they under pressure to beat existing competition on existing drugs; they're under pressure to beat the field to new drugs. There are still diseases, such as cancer and polio, that haven't yet responded to antibiotic cures. And there are still fields of study—animal and plant health for instance—that antibiotic scientists have barely scratched.

What are the prospects, and the problems, in these areas?

### I. Medicine

Penicillin was discovered by accident as far back as 1928, but antibiotics have been important medical products for less than 15 years. Penicillin was considered a laboratory curiosity until

**MOLDS** are the supply source. Hundreds of antibiotics are tested and rejected; only a few pass the rigid requirements and eventually hit the market as usable drugs.



## We've wired the Little Red Schoolhouse for SOUND

The American schoolhouse isn't little any more. And its need for fast intercommunication has grown as rapidly as its rooms and its enrollment.

Yesterday's "communication" was pretty much limited to teachers sending pupils scurrying on errands. Today, anyone in the school, from class president to principal, can man the mike—supervise high fidelity record-playing—use the network of intercom telephones—of send and direct programs and announcements to any or all of 60 stations!

School assemblies no longer mean a mad rush to the auditorium; instead, a thousand children

sit in their rooms and listen. High fidelity radio programs and recorded music, announcements, and television educational features can be received in every room or in any selected few. And the advantages of such a service in fire drills or in Civil Defense practice is both obvious and imperative.

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**"... microorganisms have  
been cultivated to produce  
new antibiotics ..."**

**ANTIBIOTICS** starts on p. 186

1939, when scientists found that certain microorganisms (in this case, molds) could kill or inhibit the growth of other microorganisms. The killing action, scientists determined, came from the chemicals (antibiotics) produced by these microorganisms. The "miracle cures" effected by penicillin during the war clinched their importance.

Since that time, soil samples—leading source of microorganisms—and other possible sources such as tree barks have been collected from all over the world. The samples have been tested in the laboratory, and the microorganisms have been cultivated to produce various types and colors of molds in the search for new antibiotics.

• **The Hitch**—Finding a new antibiotic is one thing. Developing one that can be used on human beings is another.

In the first place, not all molds produce antibiotics. Your preliminary task is to select certain molds and check them for their ability to produce. You know that certain types or families of molds are more likely bets than others, so you concentrate your efforts on these.

Even if you get an antibiotic (about one in three of the molds selected produces some antibiotic), your troubles have just begun. You have to check the antibiotic for its similarity to other antibiotics, test its effectiveness against disease microbes. And you have to check it for possible allergy effects on humans.

These tests eliminate practically all of the new antibiotics found. Some are ineffective against most germs. Others are effective only against those diseases that are already better controlled by existing antibiotics. Most of the rest are eliminated because of their toxic or other harmful effects to the body—effects that can range from a simple skin rash to a deadly blood condition.

• **Field Tests**—Laboratory tests of a new antibiotic aren't always conclusive. Some seem effective against a certain germ in the laboratory, but don't work when they're tested on animals or under more natural circumstances. Others prove effective against germs in first tests, rapidly lose their effectiveness—often before leaving the lab—as the germs develop an immunity.

Still others look ideal in laboratory tests and early experiments, but become suspect later. For instance, Chloromycetin—developed by Parke, Davis & Co.—looked like a good new antibiotic at





## 37 clerks were 3½ years behind schedule

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The job of the "hand enrollers" in New Jersey's Chancery Division of the Superior Court was to list just the complaints filed with the Court and the Court's decisions.

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See Clues on page 198

first. Then doctors started to report deaths from a certain kind of anemia—which they blamed on the antibiotic. Tests now indicate that the drug can be used only under careful medical supervision.

• **Placers**—After all of the checks and tests, some antibiotics finally become marketable. Penicillin, for instance, is useful in treating 25 infections; streptomycin in 15; and terramycin in as many as 80. A few others, such as aureomycin, are also widely used.

But even the accepted antibiotics, such as penicillin, haven't passed all the hurdles. Many people still develop an allergy to penicillin, and its use has been limited in some cases. A few years ago, research scientists found that the allergy is probably due to part of the chemical structure of penicillin. Upjohn Co. put its researchers to work on the problem, as did many other companies. Now Upjohn has developed a class of penicillins effective for treatments on people who are sensitive to the standard penicillin G.

• **The Future**—Researchers don't think they are likely to find many more antibiotics that will rival the present popular ones in effectiveness. They're still looking for a polio or cancer antibiotic; but they figure that the rest of their future work will be limited to developing (1) drugs effective against a more limited number of infections, or (2) drugs to replace others to which germs have become immune. If researchers don't conquer any major new disease, they don't expect many new million-dollar antibiotics.

## II. Agriculture

Animals and plants get sick just as human beings do. The farm gives antibiotic scientists a tremendous secondary market for their product.

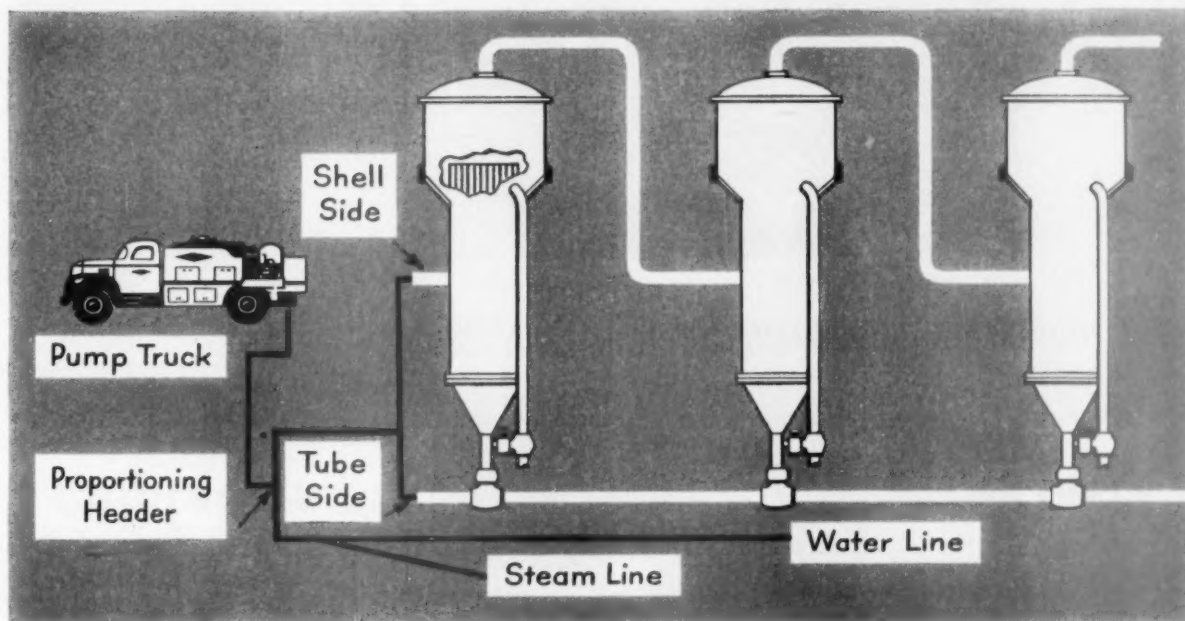
The problems facing researchers here are very different from the problems of human medicine. No one can set a cash value on human life. If a drug works, it's worth using on a man—no matter what its cost. But when you're dealing with animals and plants, a serious economic problem comes up.

A farmer can't afford to cure his hog or chickens if the cost of medication cuts out his profit on the end product. So while the problem in human research is to develop a better antibiotic, the problem in veterinary research is to develop one cheap enough for widespread use.

• **Uses**—Antibiotics are used for two purposes in animal applications. They are used to combat diseases. They're also used to speed an animal's growth—and here, researchers figure, lies the really big potential. A chicken that would normally grow to 3 lb. in 12 to 14 weeks can be raised to the same size

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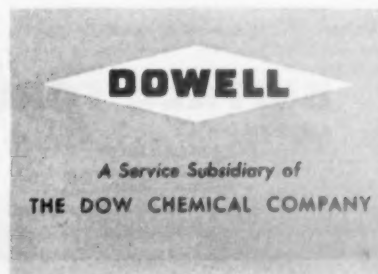
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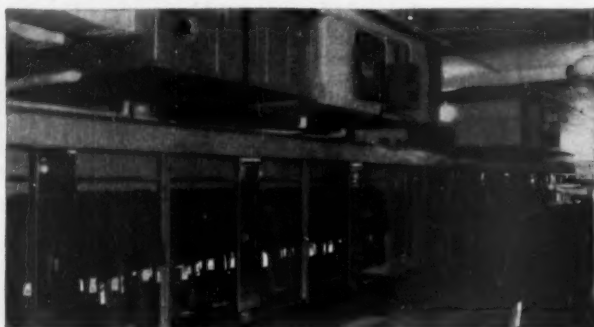
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Besides the units shown here, "Buffalo" builds models to fit a

variety of space requirements — among them, vertical VPC Cabinets — all equipment of proven quality. Whether you are concerned with new-building plans or remodeling, you'll find a "Buffalo" Cabinet to fit the job perfectly, and give complete satisfaction. Why not have us mail you Bulletin 3703B? It contains helpful engineering information on solving *your* comfort conditioning problem!

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in nine to 11 weeks by adding penicillin, terramycin, or aureomycin to its feed (BW—Nov. 22 '52, p96). The antibiotics can be used to improve the general health of an animal, in other words, even when it isn't suffering from any specific disease.

This raises the animal's value—as was shown by an experiment recently tried at a Florida race track. A nine-year-old horse that had won only \$100 all year was given a ration containing aureomycin. In two months its appetite picked up, and its general health improved. It won \$6,000 in the next three months. When taken off the aureomycin diet, it returned to its losing ways.

Experiments like that indicate that the future for antibiotics might be brighter even in agricultural than in medical uses.

• **Plants**—Researchers opened up a whole field for themselves when they began to study antibiotics seriously for use against plant diseases. And there are expectations that plant growth might be speeded by antibiotics just as animal growth has been.

Researchers must use the same approach in their dealings with plants as in their work with animals: Cost is important. But in other respects, work on plants will require techniques and tests different from those tried on either humans or animals.

The scientists must do special research into ways of getting antibiotics into a plant in effective amounts. They must find out how much of the drug is retained in the plant when it's sold as food. There are many other problems just starting to arise.

Another important aspect of research on plants is that the types of antibiotics most effective in this field could be far different from those now used on animals and humans. This implies that scientists will have to restudy many of the antibiotics discovered in the past and rejected because they failed to meet specifications for medical use.

### III. Basic Research

Although the biggest effort of research in antibiotics aims at specific applications, companies find that basic research may also prove worthwhile. Most important part of the basic research is an effort to find out why antibiotics behave as they do. There are several theories as to how an antibiotic may kill a germ or other microorganism, but no one yet knows for sure.

Some scientists believe that the antibiotic has a direct poisoning effect when it is eaten by the microorganism. Others feel that it cuts the microbe off from its food supply and starves it. There are still other ideas.

• **Chance**—If scientists can find out



## GUIDING SPIRIT THAT KEEPS A BUSINESS LIVELY

She's the modern American woman, keeping herself young and attractive (we snapped her in her beauty mask). Cosmetics makers constantly vie for her favor with new products, well-timed sales promotions. To make these promotions succeed, the manufacturer must get his products and merchandising aids in stores everywhere when the time is ripe. That makes a complex shipping problem. Here's the solution—



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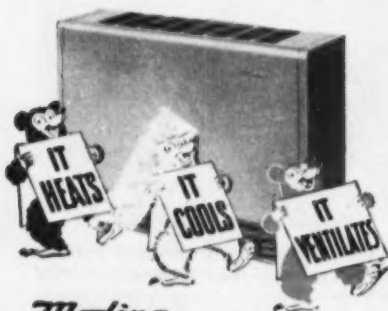
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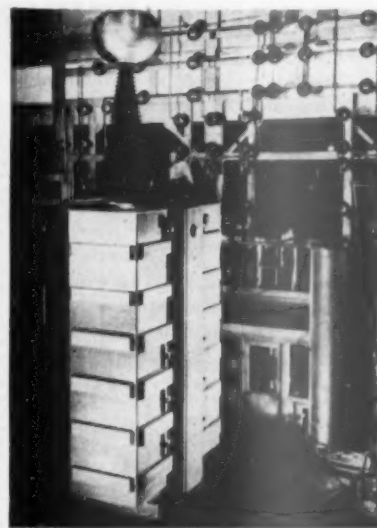
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how the antibiotic kills, they stand a better chance of figuring out why one antibiotic is effective on some germs and not on others. They may be able to figure why some germs develop an immunity to a certain antibiotic and others don't. This may help them decide which molds to test, which antibiotics have the best long-range possibilities.

Scientists are also doing basic research to determine the exact chemical structures of antibiotics—a hard job, since the structures are staggeringly complicated. Although researchers don't know for sure what this will prove, they feel their work may turn out to be practical. For instance, in the case of penicillin, a knowledge of the exact chemical structure indicated possible changes that might beat the problem of allergy. The changes worked for Upjohn.

Knowing the exact chemical structure has other possibilities. It may indicate a way to make the drug synthetically without growing molds. Or if the chemical structure indicates that the drug can't be made by any synthetic means, a company could expand its production facilities without fearing that a competitor will develop a cheap synthetic substitute.



## Super Transformer

Testing of a 60-cycle, 600,000-volt, single-phase power transformer (above) has been completed by Allis-Chalmers Mfg. Co. The 5,000-kva. unit is the latest step in a development program aimed at more efficient use of high-voltage insulation. The transformer was built as a research tool to determine whether present basic data and calculating methods will be adequate to design power transformers at voltages far greater than those now in use.





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The powerful cleaning action of the Tornado and its ability to pick up liquids and dry substances simultaneously make it a must in shops where good housekeeping is synonymous with good workmanship. These same features give Tornado the versatility to perform numerous other operations. Many firms have found, as Onsrud did, that the labor-saving Tornado has real cost-cutting possibilities in addition to its primary purpose. Find out more about the Tornado at no obligation.

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## Wheat Research

Washington farmers tax themselves to buy land for study of methods to check the spread of smut.

Most American corporations have learned the value of research and now pour part of income back into the laboratory. But, with few exceptions, this has not been true of the farmer. He has depended for the financing of crop research on the government or on trade organizations and the like.

Wheat farmers in eastern Washington are now reversing this trend. When the 1953 State Legislature challenged the farmers "to do something for themselves," they took up the challenge and now are taxing themselves  $\frac{1}{4}$ ¢ per bu. to provide funds for grain research.

• **Antismut**—The goal of the farmers from 14 counties is \$150,000 to buy additional land for developing smut-resistant wheat acceptable to millers. Smut, a disease that produces black masses on wheat and other farm products, damaged only 2% of the Washington wheat crop in 1942. By 1952 it affected 28% of the crop and cut farm income by \$12-million—costing each farmer an average \$250.

Up to now only six acres of land between the fur farm and dairy of Washington State College at Putnam have been devoted to wheat science. And this land is so steep that crops planted at the top of the slope in summer sometimes slide to the bottom by spring.

The Washington farmers expect to remedy this by using the \$150,000 to buy 96 acres near Washington State College for wheat research. Fifteen acres will be planted each year for winter wheat research, including new Siberian and Japanese varieties. Seven acres are for spring wheat, and about 10 for other cereal crops. The 96 acres will be divided into three 32-acre plots, each to lie fallow for two years and be used the third.

• **Foundation Seed**—Washington's growers are calling the 96-acre plot "the new agronomy farm." In addition to disease research, the farm will be used for testing other crops that the wheat farmer can profitably plant. The farmers also believe the land can provide foundation seed in quantity.

"Foundation" is the word for seed of a new variety, used by farmers to replace a diseased field. Until now the acreage at the college has been so small that individual farmers raised foundation seed under contract. It sometimes took six years to distribute enough foundation seed to satisfy the demand. Expansion was so slow that new



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varieties of smut invaded the foundation crop before it had really taken hold.

The wheat tax was self-imposed by the farmers after outlay for agronomy was cut from the budget for the third time. The nine members of the wheat committee of the Whitman county farm bureau met and their secretary, Ward Rinchart, proposed that the farmers do what the legislature had refused to do: Tax the crop.

The committee passed on the suggestion to the Washington Wheat League, which undertook collection of the tax under the direction of John Stephenson, a Benge grower. Stephenson drove hundreds of miles talking up the tax and concocted a collection system. He hoped to avoid the legislature's objection that the tax might produce \$300,000 in two years, but would cost \$250,000 to collect.

• **Little Opposition**—The 7,500 wheat growers in eastern Washington were asked to sign up for the tax. When the individual grower brings in his crop, his elevator operator drops a sign-up card in front of him; his banker points out the long-range advantages of farm research, and offers to deduct the tax from the grower's wheat checks automatically. Few farmers have opposed the tax, and Stephenson has found no organized resistance.

On May 1, 1954, the Wheat League will review its tax campaign. There seems to be little doubt that they will have the \$150,000 they need.

## RESEARCH BRIEFS

Translations of foreign scientific writings will be photoduplicated and filed in a new Library of Congress center set up by National Science Foundation. Translations collected from government agencies, scientific societies, industrial laboratories, and universities will be available through the Scientific Translations Center, Science Division, Library of Congress, Washington 25, D. C.

A new way to purify radium has been announced by scientists of Mound Laboratory, the atomic energy laboratory operated by Monsanto Chemical Co. at Miamisburg, Ohio. The Mound process gets rid of the most difficult part of the Curie process, developed by Marie and Pierre Curie near the beginning of the century.

Minute temperature differences around growing plants, important in agricultural research, can be measured with new techniques recently described by a University of Chicago botanist, Paul D. Voth. Voth and his associates used commercial devices, and adapted them into the unique plant thermometer.

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# The Retreat from Hard Money

There is more than mere financial interest in the news that the Bank of England and the Bank of France have reduced their rediscount rates from 4% to 3½%. Coming on the heels of similar action by West Germany and other European countries, there is little doubt that these latest cuts decisively indicate an international trend away from tight money.

This trend is the logical sequel to the restrictive credit policies recently pursued to curb post-war inflation. These restrictions were not only necessary, but in many instances, long overdue. It was not until 1951, for example, when the Conservatives came into power, that definite deflationary steps were taken in Great Britain.

That these policies were successful appears evident in the symbolic step reducing the bank rate. Inflation has been curbed, the economy has been stabilized, so that any further restrictions might have resulted in the risk of promoting deflation. In deciding that a little relaxation was essential to spur investment and production, European central banking authorities signalized a welcome return to a flexible money policy.

This flexible approach comes at a time when the United States is experiencing a heavy seasonal demand for loans by business and agriculture. In fact, a squeeze in money is developing just as it did last June, before the Federal Reserve System stepped in by lowering reserve requirements. As a result, there is talk of the Fed again reducing reserve requirements.

## A Crude Weapon

It is doubtful whether this is, in fact, the best way to meet the current situation. The juggling of reserve requirements is not a normal instrument of monetary policy. Rather, it is a crude and inflexible weapon with a blast that is heard around the world. Anyone can observe its impact, for it means that the banking system is flooded with excess reserves virtually overnight, immediately producing an easing of credit.

The virtue of this weapon comes from this immediate and obvious impact. There is nothing subtle about it. Thus, it should be used only when the central banking system decides to signal a dramatic reversal in its policy. If it is not used in this way, its strength is dissipated.

## The June Reversal

This was partly the case when the Fed acted last June. Our money managers attempted to make up for their tardiness in easing the money squeeze by firing off the strongest weapon in their arsenal. Then, they belittled its effect by announcing that its use was not intended as any reversal of policy.

There are other more selective devices at the Fed's disposal. One method is to buy Government securities in the open market. The Fed wisely resorted to this means of easing the money market last week with outright purchases of \$50-million. If condition warrants it, the Fed could double its buying. Moreover, Federal Reserve banks could also make loans more freely to member banks for heavy seasonal requirements.

Such flexible steps appear adequate to meet the present situation. The time may come when the Fed will need its most dramatic weapon to demonstrate, to the nation and the world, that the Administration is determined to fight deflation. To use it indiscriminately is like crying wolf too often. It is a mistake to fire your biggest gun before you ever sight your objective, much less the whites of its eyes.

## Sightseeing With Insults

Waves of American tourists are coming back from Europe laden with gifts, snapshots, mementos and enough experiences to last through the winter. Unfortunately, not all their experiences were particularly happy ones. A distressingly large number of American travelers found themselves uncomfortable, if not actually unwelcome, in such traditional tourist havens as France and Italy.

This unhappy feeling is not a result of incidents like the strikes that paralyzed France in August. Generally speaking, Americans are amused and challenged, rather than disconcerted, by temporary inconveniences. The trouble stems from the fact that many of our European cousins—from hotel clerks to waiters to the man in the street—were often unfriendly and sometimes downright un-American. All over, say the reports, were signs that read: "American, go home."

It would be a mistake to consider that all Europeans are anti-American. Similarly, we know that every American is not a real ambassador for his country. Yet a recent French poll shows that though 40% of those queried disapprove of the anti-American signs, only 11% would consider removing them. This indifference appears as confirmation of widespread dislike.

Tourism is a big dollar earner for most European countries, but it is doubtful that Americans will spend money where they feel unwanted. A little public relations would go a long way toward solving this problem. The campaign to attract tourists should be matched by a campaign to please them. After all, Americans will continue traveling, but not where sightseeing is mixed with insults.



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